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ASME ANNUAL AM-5

JANUARY 1970

indexes to 1969 oublications

WHERE TO FIND ASME TRANSACTIONS

INDEXES TO ASME PAPERS AND PUBLICATIONS

INDEX TO MECHANICAL ENGINEERING

INDEX TO TRANSACTIONS OF THE ASME

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Published Quarterly by The American Society of Mechanical Engineers Volume 92 JANUARY 1970



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TAMPLETON OF THE ASSET

Where You Will Find ASME Transactions

In United States and Territories .								SR-1
In Other Countries								SR-3
Indexes to ASME Papers and Publication	S							SR-5
Regular Society Publications, 1969								SR-5
Publications Issued in 1969	•	•						SR-5
How to Find Papers Presented at 1969	A	SN	1E	Me	eti	ing	S	SR-5
Currently Available ASME Publication	าร							SR-5
Periodicals								SR-9
ASME Miscellaneous Papers, 1968								SR-10
Index to Mechanical Engineering, 1969								SR-19
Index to Transactions of the ASME, 1969								SR-97

Where You Will Find the ASME Transactions

In United States and Territories

ALABAMA		DISTRICT OF COLUMBIA	and a second
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	Library—Thayer School of Engineering		Library
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	Stevens Institute of Technology		Liviery
	Library	OKLAHOMA	
Newark	Newark College of Engineering Library		University of Oklahoma
New Brunswick	Rutgers University ,	0.20	Engineering Library
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	Firestone Library	Tulsa	University of Tulsa
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Albuquerque	University of New Mexico Library—Acquisitions Department		The second secon
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	Library	Chester	University Library PMC Colleges
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		Library		Engineering Library—Guggenheim Hall
		Carnegie Library of Pittsburgh University of Pittsburgh		Engineering Library—Guggenheim Hall Mechanical Engineering Library
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		Engineering Library		Mechanical Engrg. Library
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IstanbulRobert College Library	
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Indexes to **ASME Papers and Publications**

Volume 91, 1969

This and the following pages will serve as a guide to the current publications of the ASME.

Regular Society Publications. 1969

MECHANICAL ENGINEERING, monthly (see index on page SR-19)
ASME Transactions, quarterlies (see combined index on page SR-97)
Series A, Journal of Engineering for Power
Series B, Journal of Heat Transfer
Series C, Journal of Heat Transfer
Series D, Journal of Basic Engineering
Series E, Journal of Applied Mechanics
Series F, Journal of Lubrication Technology
ASME Mechanical Engineers' Catalog and Product Directory, 1969 edition
Applied Mechanics Review, monthly

Publications Issued In 1969

BOOKS AND REPORTS

1969 Boiler and Pressure Vessel Code Criteria for Design by Analysis in Sections III & IV.

sted Rules for Care and Operation of Heating Boilers (Section VI)

Fiberglass-Reinforced Plastic Pressure Vessels (Section VI)
Fiberglass-Reinforced Plastic Pressure Vessels (Section X)
Inservice Inspection of Nuclear Reactor Coolant Systems (Section XI)
1969 Code Interpretations
Alternative Rules for Pressure Vessels
Guide to Alternative Rules for Pressure Vessels
ASME Steam Tables & Mollier Chart
Boundary Lubrication — An Appraisal of World Literature
Cavitation Forum — 1969
Cavitation State of Knowledge
Computational Approaches in Applied Mechanics
Computer in Pressure Vessel Analysis
Control of Distributed Parameter Systems
Criteria of the ASME Boiler and Pressure Vessel Code for Designation

Criteria of the ASME Boiler and Pressure Vessel Code for Design by Analysis in Sections III & IV

in Sections III & IV
Defining Transportation Requirements
Dynamics of Structured Solids
Elevator Code and Supplements
Frank Gilbreth Centennial

Frank Officetic Centennaia Gas Lubrication Heat Transfer in Rod Bundles JEMC Proceedings "The Engineering Manager — Survival in the Seventies" List of Manufacturers Holding Certificates of Authorization for Code Symbol

List of Manufacturers Holding Certificates of Authorization for Stamps
Machinery Noise
Materials Technology — An Interamerican Approach
Mathematical Theory of Dislocations
Pressure Vessel Technology
Design and Analysis — Part I
Materials and Fabrication — Part II
Pressure Piping Code Interpretation — 1969
Proceedings of the Second International Symposium on Gas Lubrication
Stochastic Processes in Dynamical Problems
Structures and Materials
Surface Mechanics

The Engineer's Responsibility to Society
Two-Phase Flow Instrumentation
Two-Phase Flow & Heat Transfer in Rod Bundles

Urban Engineering and Transportation Use of the Computer in Pressure Vessel Analysis

ASME STANDARDS

Draft ASME Code for Inservice Inspection of Nuclear Reactor Coolant Systems
Draft ASME Code for Pumps and Valves for Nuclear Power
Recommended Guide for the Control of Dust Emissions—Combustion for Indirect
Heat Exchangers 1969
Recommended Practices for the Design of Gas Turbine Generator Lubricating
Oil Systems
Recommended Practices for the Design of Lubricating Systems for Marine Steam
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Indexable (Throw-away) Insert Holders
Machine Mounting Specifications for Abrasive Discs and Plate Mounted Wheels
Manliffs

Manlifts
Milling Cutters and End Mills
Nuclear Power Piping
Pipe Threads (Except Dryseal)
Preferred Diameters for Round Wire—0.5000 inches and Under
Punches—Basic Ball-lock, Light and Heavy Duty
Quill Flanges and Spindle Ends for Upright and Horizontal Drill Spindles for
Production Type Drilling Machines
Safety Standard for Powered Industrial Trucks
Specifications for Carbide Blanks for Twist Drills, Reamers, End Mills and Random Rod

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PERFORMANCE TEST CODES

Coal Pulverizers

Gaseous Fuels
Guidance for Evaluation of Measurement Uncertainty in Performance Tests of
Steam Turbines

How to Find Papers Presented at 1969 **ASME Meetings**

The technical programs of the meetings of the Society and of its Professional Divisions have been published in MECHANICAL ENGINEERING and may be located by consulting the index on pages SR-19 to SR-96. Many of these paper will be published in MECHANICAL ENGINEERING or the TRANSACTIONS and may be located by reference to the indexes of these publications.

Currently Available ASME Publications

ASME members may purchase most of the publications listed below at a 20 percent discount. Handling and mailing charges are added to price when payment does not accompany order.

USA STANDARDS

Safety Codes

Elevators, Dumbwaiters, Escalators and Moving Walks. \$9.50 Supplement to Safety Code for Elevators, Dumbwaiters and 51.50 A17.1a—1967. Supplement to Safety Code for Elevators, Dumbwaiters and Moving Walks. \$1.50
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A13.1-1964. Mechanized Parking Garage Equipment. \$4.50
B15.1-1953. (Reaffirmed 1958). Mechanical Power Transmission Apparatus. \$3.50
B20.1-1957. Conveyors. Columbia. A17.1-1965. Elevators, Dur A17.1a-1967. Supplement

\$3.50
B20.1—1943. (Reaffirmed 1952). Jacks. \$2.00
B30.2—1943. (Reaffirmed 1952). Cranes, Hoists, Derricks. \$4.75
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B30.3—1968. Crawler, Locomotive & Truck Cranes. \$3.00
B56.1—1969. Powered Industrial Trucks. \$2.50
B77.1—1960. Aerial Passenger Tramways. \$5.00 (with 1963 and 1965

Safety Codes-Nuclear

N6.2—1965. Safety Standard for Design Fabrication and Maintenance for Nuclear Power Reactors. \$2.00

Piping

A13.1—1956. Scheme for Identification of Piping Systems. \$2.00 Code for Pressure Piping B31.1.0—1967. Power Piping. \$5.00 B311.10—1969. Addendum to Power Piping. 50¢ B31.2—1968. Fuel Gas Piping. \$4.00

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B16.18—1963. Cast-Bronze Solder-Joint Pressure Fittings. \$2.50 B16.20—1963. Ring-Joint Gaskets and Grooves for Steel Pipe Flanges. \$2.00	Mounted Wheels. \$3.00 B5.38—1958. Driving and Spindle Ends for Portable Air and Electric Tools.
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The Second U. S. National Congress of Applied Mechanics. 1958. \$22,00
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Use of Modes and Scaling in Shock and Vibration. 1963. \$7,00

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Diaphragm Characteristics, Design and Terminology. 1958. \$5.25 Dynamics of Automatic Controls, 1948. \$7.00 Frequency Response. 1956. \$8.50 Proceedings, 1965 Joint Automatic Control Conference. 1966. \$25.00 Stochastic Problems in Control. 1968. \$5.75.

Bibliographies

Annotated Bibliography on High Pressure Technology. 1964. \$14.50 Gas Turbines (1896-1948). 1962. \$9.00 Spray Literature Abstracts. 1959. \$17.00

Biographies — Autobiographies

Adventures in the Navy, in Education, Science, Engineering, and in War, by W. F. Durand. 1953. \$5.00
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I Remember—Autobiography of Dexter S. Kimball. 1953. \$5.00
Miller, Fred J.—A Biography. 1941. \$2.00
Modern Jupiter—The Biography of Charles Proteus Steinmetz. 1958. \$4.00
Scientific Blacksmith—The Autobiography of Mortimer E. Cooley. 1947. \$4.25

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Fourth Symposium on Thermophysical Properties. 1968. \$25.00

General Discussion on Heat Transfer. 1951. \$10.00

Heat Transfer in Rod Bundles. 1968. \$8.50

International Developments in Heat Transfer, Proceedings of the 1961-1962 Heat Transfer Conference. 1963. \$40.00

Progress in International Research on Thermodynamic and Transport Properties. 1962. \$24.00

Reflections on the Medica Property 1964. Symposium on the Motive Power of Heat. 1943. \$4,00 Symposium on Air-Cooled Heat Exchanger. 1964. \$5.75 Thermal Problems in Biotechnology. 1968. \$7.50 Thermodynamic and Transport Properties of Gases, Liquids and Solids. 1959. Transport Phenomena in Atmospheric and Ecological Systems. 1967. \$3.50 Two-Phase Flow Instrumentation. 1969. \$9.50 Two-Phase Flow and Heat Transfer in Rod Bundles. 1969. \$11.00

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Friction and Lubrication in Metal Processing. 1966. \$17.00

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Materials Handling

Advances in Material Handling. 1958. \$6.00
Materials Handling Handbook. 1958. \$22.50
Symposium on Stress-Strain-Time-Temperature Relationships in Materials. 1962.

Mechanics of Fluids

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ABBOTT, R. L. sce CERINI, J. P. ABRAHAMS, C. G. H. see Dye, R. C. F. ACCINELLI, J. B. see DESSAU, P. P. ACKLEY, R. H. Fiberglass-reinforced plastic materials. 68— DE-50. ADAMS, D. P. SEE YEAGER, K.
ADKINS, R. W., LARSON, C. S., AND RADZIMOVSKY, E. I. Predicting the oil film thickness in hydrody-namically lubricated gears. 68—WA/ LUB-5 AGGARWAL, T. C., AND HASZ, J. R. Designing optimum dampers against self-excited chatter. 68—WA/PROD-25. ALLNUTT, R. B. The use and design of pressure tanks for deep sea simulation facilities. 68—WA/UNT-ANDERSON, R. C. see MADONNA, M. A. ANDREWS, C. K. Performance of helical screw equipment for handling solids. 68—MH-38.

Antonescu, P. see MANOLESCU, N. I. ARBTER, U. J. see NELSON, F. W. ARIEY, A. F. see SEBASTIAN, F. P. ARMBRUSTER, R. H. Controlling expenditures in a small engineering group. 68—DE-60. ARMSTRONG. D. A. see HILDEBRAND, L. R. ATKINS, H. see Moore, C. J., Jr. AUDETTE, R. R. see KING, R. J. AUSLANDER, D. M.

Simulation and design of fluidic systems with long lines. 68—WA/AUT-12.

AXFORD, R. A. Analysis of temperatures in molten reactor fuel tube bundles. 68—WA/HT-31.

B

see NELSON, F. W. BACHMAN, H. E. see Tessier, K. C. BACHOFER, J. L. C., JR. see STITES, J. G., JR. BACK, L. H. Effects of surface cooling and heating on struc-ture of low-speed, laminar boundary-layer gas flows with constant free-stream velocity.
68—HT-23. BAILEY, W. D. Operating experience with a multijet gas tur-bine-generator. 68—GT-57.

BAKER, P. H. see BATESON, N. E. BALDWIN, R. Stainless steel primary piping for the high flux beam reactor. 68—WA/PEM-4.

BALINT, I., AND BRINSON, L. Two-Stage turbocharging and intercooling. 68—DGP-5.

BARINKA, L. L., AND RONA, T. P. A structural analysis for canless reactor fuel assemblies. 68—WA/NE-16. BARNES, J. F.
The role of high temperature gas turbines in concernion. 68—GT-22. power ge BARNES, J. F. see SMITH, D. J. L. BARNHART, R. E.

The contribution of metallic and ceramic coatings to gas turbine engines. 68—GT-34.

BARRON, C. H.

see BELLAMY, L.

BARTILSON, B. M. see GLASGOW, J. S. BARTMAN, J. S. see Stites, J. G., Jr. BAUER, A. B.

Vortex value operation on in a vacuum environ-BAUER, D. C.

Integrity of irradiated fuel shipping containers subject to hypothetical fire accident. 68—WA/NE-20. BAUER, E. R., JR

see MCCREA, D. H. see MATTU, R. K. BAUMANIS, A. M. see KRUPKA, R. M.

BAYATI, J. E., AND FRAZZINI, R. M. DIGATEC (Digital gas turbine engine control). 68—GT-26. trol). 68—6 BEACHLEY, N. H.

A design study of a piston gasifier using computer cycle simulation. 68—WA/DGP-7.
BEAUCHAMP-NOBBS, E. AUCHAMP-NOBBS, E.
The naval ship research and development cen-

ter's ocean pressure laboratory. UNT-5. BECKMANN, H., AND MCBRIDE, C. M.

Inherent scatter of wave forces on submerged structures. 68—PET-7.

Bedesem, W. B., and Clarke, J. S.

Prevention of catastrophic brittle fracture of heavy-wall pressure vessels. 68—PVP-4.

BEEKEN, B. B.

A theoretical and experimental study of a Coanda curved wall attachment device. 68—WA/FE-27. BEER, W. R.

Plant engineering in heavy construction—a unique challenge. 68—PEM-20 BEERBOWER, A. see NIXON, J.

BEERY, G. T., AND TRUMBLE, T. M. Fire detection techniques for supersonic air-craft. 68—GT-42. BEGGS, J. S.

Torque transmission through Bennett mechanism. 68—MECH-32.

BEITLER, S. R. Present state of the art of flow measure power industry. 68—WA/PTC-7. BELL, N. R.

see ECKERLIN, H. M. BELLAMY, L., BARRON, C. H., AND O'LOUGHLIN,

The influence of chemical inhibitor addition on reverse-jet flame stabilization. 68—GT-BELLUOMINI, J.

see BEYER, F. R. BENDER, D. J., AND SWITICK, D. M. Turbulent velocity distribution in a rod bundle. 68—WA/HT-36.

BENDER, M. Engineering practice for prestressed concrete structures in nuclear containment applications. 68—WA/NE-11.

BENFORD, A. E. Design considerations when using polyurethe foam in refrigeration applications. 68 BENN. D. H. Gas turbines versus steam reliability analys for a warship propulsion plant. 68—GT-BENNETT, J. E. G, J. C.

see HUNG, J. C.
BENSON, G. M., AND KATTCHEE, N.
Application of the piezoelectric effect for energy converters of the artificial heart program. 68—WA/ENER-8. BENTZ. C. E.

Propulsion system controls capabilities and fu-ture requirements. 68—GT-62. BENZING, R. J., AND McCONNELL, B. D.

Lubrication techniques for use in vacuum. 68—DE-39.

see HARING, J. M. BERGE, K. Today—technical 68—PEM-19. technical training is not enough!

Berglund, J. W., and Klosner, J. M.
Interaction of a ring-reinforced shell and a
fluid medium. 68—APM-3. fluid medium. BERRY, J. T.

see Oppenheimer, E. D. BERT, C. W. see REESE, C. D.

BERTAPELLE, A. H. vehicles assembled in space. Satellites and 68-DE-61.

Bessonov, A. P.
Balancing a planar mechanism with variable mass links. 68—MECH-67.
Beyer, F. R., Mahlmeister, J. F., and Belloumini, J.

Reactor arrangement for a piped liquid metal-cooled fast breeder reactor. 68—WA/NE-

17. Bhat, G. K. see Johnson, H. A. BIENSTOCK, D. see FELDMANN, H. F. BIESE, J. J.

see Leung, P.
BILLINGTON, I. J., AND FITZSIMMONS, T. E.
The spring supported hydrostatic seal. 68—
WA/LUB-9.
BISHOP, J. W. et al.
Status of the direct contact heat transferring
fluidized bed boiler. 68—WA/FU-4.

BLACK, R. S.

Radio communications in refineries. 68-PET-14.

BLECHINGER, C. J., AND FEIEREISEN, W. J. A method for estimating the combined p formance of a turbine and exhaust diffu 68—WA/FE-49. BLUM, H. A.

see MOORE, C. J., JR.
BOBCO, R. P., AND EDWARDS, R. H.
Radiation from absorbing-scattering conical
dispersion with nonuniform density. 68—
HT-29. Вово, L. L.

Expanding the application of powder metal parts through heat treatment. 68—DE-58. BOERS B. L. see WAMBSGANSS, M. W., JR.

BOMBERGER, H. B. Titanium in the petroleum industries. Unnumbered.

BONNELL, R. D see TAO. D. C.

BONNER, R. C., AND VOLK, R. L. Field experience with digital engine-compressor indicator. 68—PET-15. NNETT, G. M.

Ultrasonics versus radiography. 68-DE-4. Boos, J. see Lowe, J.

BOOTHE, W. A. see KELLEY, L. R.

BACHER, J. F.

BORN, J. E.

Giant presses for curing giant tires. 68—WA/RP-4.

BOWEN, J. H., JR. see CERINI, J. P.

Pressure tests of cylindrical pressure vessels reinforced with steel wire wrapping. 68— PVP-24

BOYER, A. E. Weather, air pollution, and plant operations. 68—PEM-14.

BRADY, E. L.

The National Standard Reference Data System. 68-DE-53

BREED, D. S.

Annular orifice dashpots for accurate time de-lay applications. 68—DE-9.

BREIDENBACH, L. J.

Design of plastic structures for deep sea use. 68—DE-55.

Bressler, M. N., and Fleishman, S. L.

Metallurgical properties of ASTM A 508 Class
2 low alloy steel forgings. 68—PET-19. BREUGELMANS, F. A. E.

High speed cascade testing and its application to axial flow supersonic compressors. 68— GT-10.

BRIGGS, E. M. see DEHART, R. C.

BRINSON, L. see BALINT, I.

BRITTON, J. G. see BYRNE, R.

BROGAN, T. R. see Dicks, J. B.

High-pressure testing—pipeline defect behavior and pressure reversals. 68—PET-24.

BROWN, J. W. see CLARK, G. B.

BROWN, L. R., LADNER, C. M., AND TISCHER, R. G.

A high temperature wastewater treatment process. 68—WA/PID-9.

BROWN, R. S. see MABIE, H. H.

BROWNE, B. H. Statistical estimation and elimination of thermal network model errors. 68-HT-48.

BRUN, R. F., AND LEINHARD, J. H. Behavior of free laminar jets leaving Poiseuille tubes. 68-FE-44.

BRUNELL, K. A framework for forecasting of technology in industry. 68-WA/MGT-4.

BRUNER, J. D., AND MUSTER, D.

Filtering characteristics of long, cylindrical steel bar having discontinuities in cross-sectional area. 68—PET-22.

BRYERS, R. W., AND KEREKES, Z. Recent experience with ash deposits in refuse-fired boilers. 68—WA/CD-4.

BUCHBERG, H., EDWARDS, D. K., AND LALUDE, O.

Design considerations for cellular solar collectors. 68—WA/SOL-3.

BUCHWALD, J., AND FLEISHMAN, S. L.

Manufacture and testing of hollow forgings
with explosion-bonded clad bores. 68— PET-18

BUCK, K. E.

Experimental efforts in Stirling engine development. 68—WA/ENER-3. BUDNEY, G. S.

Sodium heated steam generator erations. 68—WA/NE-19. erator design consid-

BUHAYAR, E. S.
Optimal proportioning of output-modulating belt drive. 68—MECH-51.
BULKELEY, P. Z.

Design and construction of micromechanical devices. 68—DE-11.

BURGHARD, H. C., LAUTZENHEISER, C. E., AND WYLIE, R. D.
Influence of fabrication on reliability of high-temperature superheater tubes. 68—PVP-26

BURMEISTER, L. C., AND SCHOENHALS, R. J.
Effect of pressure fluctuations on laminar film
boiling. 68—HT-28.
BURNS, R. H., AND CROSSLEY, F. R. E.
Kinetostatic synthesis of flexible link mechanisms. 68—MECH-36.

BURNS, W. H., AND GRIFFITH, N. J.

Development of electrohydraulic power systems for use in artificial hearts and circulatory assist devices. 68—WA/ENER-13.

BUSBY, R. F. Design and operational performance of manned submersibles. 68—WA/UNT-11.

BUTCHER, H.

see SHIH, C. C. BYERLEY W. M.

Steam generators for nuclear power plants. 68—WA/PWR-2.

BYRNE, R., AND BRITTON, J. G. The development on concepts in freight car cushioning. 68—WA/RR-7.

CAIRNS, J. R., SIDHOM, M. M., AND NA, T. Y.
Laminar creeping flow of incompressible fluids
between parallel disks with excentric inlet
68—FE-53.

CAIRNS, J. R., SIDHOM, M. M., AND NA, T. Y. Optimal design of staged jet-pump systems. 68—WA/FE-41.

CAMPAGNUOLO, C. J. see HOLMES, A. B. CANOVA. F.

Interaction of compressor-expander turboma-chinery in chemical processes. 68—WA/ PID-6.

CARLISS, O. S.

Safety aspects in the design of industrial trucks. 68—WA/SAF-3.

CARLSON, C. W., HSU, J. J., AND MEYERS, C. A. The penetration and mixing of air jets directed perpendicular to a stream. 68—WA/GT-8.

CARLSON, W. A.
Semicrystalline ceramic coatings for use in high temperature CARR, R. L., JR. 68-DE-20 environments.

Particle behavior, storage, and flow. 68-MH-6. CARSON, W. L., AND TRUMMEL, J. M.

Times response of lower pair spatial mechanisms subjected to general forces. 68—

CARTER, A. F.

A 2000-hp military vehicle gas turbine—a study of significant thermodynamic and mechanical parameters. 68—GT-52.

CARTER, A. F.

see LENHERR, F. K.

CARTER, T. E.

An optimal-suboptimal guidance law for an undersea vessel. 68—WA/UNT-10.

CARTER, W. M.

see LAFFERTY, J. F.

CERINI, J. P., DEVINE, M. J., LAMSON, E. R., BOWEN, J. H., JR., AND ABBOTT, R. L. Engineering design of oil-free internal combus-

tion engines. 68—DGP-16. CHALIFOUX, H. D., CHRISTIANSEN, F. H., ROBIN-SON, R. D., CHRISTIANSEN, F. H., ROBIN-SON, R. D., PARROT, T. L., AND PETERS, J. C.

An energy transmission and energy conversion system for artificial heart assist devices. 68—WA/ENER-6.

CHALKER, R. G. The engineer-manager in the nuclear age, 68—WA/MGT-8.

CH'AO, G. see LORENZO, J. J.

CHARKEY, A.

see DALIN, G.
CHEN, C. E., KNOX, A. E., AND SHIEH, L. S.
A new technique for identifying linear systems.
68—WA/AUT-13.
CHEN, F. Y.

On a class of spherical linkages. 68-MECH-

CHEN, P. M. see BISHOP, J. W. CHENG, S. C., TANGER, G. E., AND VACHON, R.

A technique to determine a temperature dependent expression for the thermal diffusivity of solids. 68—WA/HT-27.

CHESNEY, A. J., Jr.

Water injection-pump development. 68—

PET-11.

CHISEL, D. M., AND ROSE, R. K.

A fluidic proportional thruster system for sounding rocket applications. 68—WA/

FF-32 CHOUDHURY, W. U., AND EL-WAKIL, M. M. On the use of porous fuel elements in nuclear reactors. 68—WA/NE-7.

CHRISTIANSEN, F. H.

see CHALIFOUX, H. D. CLARK, G. B., HAAS, C. J., BROWN, J. W., AND MUIR, C. D.

Recent research in hypervelocity impact rock disintegration. 68—FE-45.

CLARK, J. M., JR.

see WITZKY, J. E.

CLARK, R. R. Fluidics, a new study in plant controls. 68— PEM-4.

CLARKE, J. S. see BEDESEM, W. B.

CLARKE, T. C.

of voluntary controls. 68-Development WA/SAF-2.

CLAUDSON, T. T., WILLIAMS, J. A., AND DE MASTRY, J. A. Fracture toughness of irradiated and unirra-diated heavy section pressure vessel material. 68—WA/ER-2.

COHEN. A. J. Make money with solid film lubricated valves.

68—unnumbered.
Compton, W. A., and Steward, K. P.
Dust erosion of compressor materialsience and prospects. 68—GT-55.
Comstock, J. M.

Uses of titanium in deep submergence vehicles. 68—DE-2.

COVELLI, V. H. see HUFFMAN, F. N. Cox. J. E.

see WALKER, W. F. Cox, J. E. see WITTE, L. C.

CRANE, R. A., AND MAYER, A. A computer code for performing parametric studies on liquid-metal fast-breeder reactors.

68-WA/NE-6.

CRAVALHO, E. G., AND TIEN, C. L. A study of thick film solutions for radiative transfer between two dielectrics. 68-HT-34. CROSSLEY, F. R. E

see Burns, R. H. Crothers, J. M. see Turner, B. E.
Culpepper, W. B.
see Schuh, N. F., Jr.

CURLEY, C. C. Peaking capacity for Pennsylvania Power and Light Company. 68—GT-48. CUSHMAN, D. J.

Preventive maintenance fundamentals, 68-

CYBRIWSKY, A., PSAROUTHAKIS, J., AND NITZ, A. Strain effect on EMF of silver iodide cels. 68-WA/PT-2.

n

DALE, J. R., McCandless, J. M., and Holle R. A.

Dynamic response of a suspended hydrophone to wave and flow effects. 68—FE-39. Dale, J. R., McCandless, J. M., and Holler,

Water drag effects of flow induced cable vibrations. 68—WA/FE-47.

DALIN, G., AND CHARREY, A.

Application considerations for the new air
zinc battery. 68—DE-16.

DALLMANN, C. H. I. process—new development in treating boiler feedwater. 68—PET-26. DAVENPORT, M. E. see REYNOLDS, H. C. see KAUFMAN, B. DAVIES, T. Systematic pair-reduction procedure for con-straint problems. 68—MECH-59. DECKIN, C. B. V. D. see BEDENING, D. Study of the deformation and fracture of steel from the examination of the behavior of thick-walled cylinders submitted to high pressures. 68—WA/PVP-9.

DE GRAVE, C. Shortening the development time—idea to prototype. 68—DE-23.

DEHART, R. C., AND BRIGGS, E. M.

The Southwest Research Institute underwater engineering laboratory. 68-WA/UNT-6. DELHOM. L. A. Solid-state terminology for the design engineer. 68_DF-35 DE MASTRY, J. A. see CLAUDSON, T. T. DEMETRI, E. P. Heat-exchanger optimization for a regenerative small-gas-turbine cycle. 68—GT-18. small-gas-turbine cycle. DERIENZO, P. P. see LINO, C. L. DES RUISSEAUX, N., AND ZERKLE, R. D.
Freezing of hydraulic systems. 68—HT-24.
DESSAU, P. P., ACCINELLI, J. B., EMMONS, W. F., AND FUNK, C. W. F., AND FUNK, C. W.

Composite materials development for cryogenic bearing retainers. 68—WA/LUB-10.

DETTMERING, W., AND KEUSENHOFF, J.

Influence of sidewall friction on the flow in multistage axial-flow turbomachines. FE-54

see Cerini, J. P.
Dicks, J. B., Brogan, T. R., Way, S., and
Jones, M. S., Jr.

Current status and recent attainment in MHD power generation: a report of the MHD subcommittee, Energetics Division ASME. 68—WA/ENER-17. DONG, R. G.

Description of tensile failure of viscoelastic ma-terials under multiaxial loading. 68—WA/ DOYLE, E. F.

see HUFFMAN, F. N.

DEVINE, M. J.

Studies on a fuel cell power supply for the artificial heart. 68—WA/ENER-9. DRANSFIELD, P.

see TUCKER, R. H. DRESCHER, A.
see MRÓZ, Z.
DUBYNIN, N. G.

Kinematics and dynamics of bulk solids during discharge from orifices. 68-MH-27 DUNFEE, J.

see RUMBARGER, J. H.

DU ROCHER, L. J., AND GIANNOTTI, H.
The ballistic air cleaner concept for army vehicular gas turbines. 68—GT-25.

hicular gas turbines. 68—GT-25.

DVORAK, F. A., AND HEAD, M. R.

Effect of uniform injection on heat transfer in the constant property turbulent boundary layer. 68—WA/HT-24. DWYER, O. E.

DWYER, O. E.,
see HLAVAC, P. J.

DYE, R. C. F., AND ABRAHAMS, C. G. H.

An investigation of the aerodynamic stability
of a cross-flow type finned tube heat exchanger. 68—WA/HT-19.

EASTON, E. C. University- and state-supported research and service centers. 68-DE-15. ECKERLIN, H. M., AND BELL, N. R Fluidic realization of threshold logic. 68-WA/FE-28 ECKERT, E. R. G.

Plasma heat transfer. 68-HT-38.

EDESKUTY, J. V. Engine operating economics in total-energy plants. 68—DGP-17.

EHRENFRIED, A. D.

Level measurement of dry solids with new extended resistive sensor. 68—MH-37.

EDWARDS, D. K.

see BUCHBERG, H. EDWARDS, R. H. see BOBCO, R. P. EHRLICH, S.

see BISHOP, J. W. EICHORN, R.

see Osborn, H. H. Eilers, G. J.

ELLIOTT, H. H., AND JOYCE, T. J.
Kilowatt-hours from LNG—The potential for using liquefied natural gas for power genera-tion. 68—PWR-9. tion. 68—P EL-WAKIL, H. M.

see CHOUDHURY, W. U.

EMERY, A. F., AND MOHSEN, A. M.

An experimental study of the separated flow
of very thick incompressible turbulent boundary layers. 68—WA/FE-36.

EMERY, A. F., AND WALKER, G. E., JR Stress intensity factors for edge cracks in rec-tangular plates with arbitrary loadings. 68—WA/MET-18.

EMERY, J. K.
Roundness as related to other measurements. 68-WA/LUB-8. EMMONS, W. F.

see DESSAU, P. P.

See DESSAU, F. P.
ENO, B. E., AND HUANG, Y. S.
Analysis of heat transfer from a square fin on a tube. 68—HT-25.
EPHRAIM, M., JR., AND WILLIAMS, H. A., JR.
A look at a modern two-cycle diesel engine.
68—DGP-10.

ERASLAN, A. H., AND FROST, W. B. G. Galerkin method for heat-transfer solution in longitudinal convection fins arbitrary shape with nonuniform surface film coeffi-cients. 68—HT-5.

cients. 6 ERDMANN, O.

Dynamic analysis of a gas turbine-reciprocat-ing compressor drive. 68—WA/GT-4. ESCHENBACH, P. W. see TESAR, D.

ESCHENBRENNER, G. P. see Honigsberg, C. A. ESTABROOK, F. R., Jr.

High-temperatu 68—DE-22. rature injection molded plastics.

FAHLMAN, G. H. Makai undersea test range. 68-WA/UNT-9.

FALKENHAGEN, G. L. see LEWIS, D. W. FAUCETT, T. R.

Controlling torsional vibration in rotating machines. 68—DE-38. FEATHERLY, W. H.

Scheduling and controlling concurrent design jobs. 68—DE-62.

FEHR, T. D., AND FOSTH, D. C.

Predictive logic control of an on-off system with one simple sensor. 68—WA/AUT-14.

FEIEREISEN, W. J.

see Blechinger, C. J.
Feldman, H. F., Simons, W. H., Sax, J., and
Bienstock, D.

Operating coal-fired, open-cycle MHD systems at low air/fuel ratios. 68—WA/ENER-15. FENSTERMAKER, R.

Tomorrow's technology: the management out-look. 68—WA/MGT-1. FERRARA, J. R.

Automated electromechanical inspection. 68-DE-46.

FETTERHOFF, K. I. see Johnson, J. O. see McCrea, D. H. FIDELLE, T. P., JR., AND ZINSMEISTER, G. E. A semi-discrete approximate solution of the inverse problem of transient heat conduction.

68—WA/HT-26.

FINKIN, E. F.
The interfacial load distribution and total transmitted torque of multiple-disk brakes and clutches during engagement. 68—WA/ DE-11

FISHER, J. M. Practical training program for maintenance craftsmen. 68—PEM-13.

FITZSIMMONS, T. E. see BILLINGTON, I. J. FLEISHMAN, S. L. see BUCHWALD, J.

FLOWER, R. A. Laser instruments for measurement purposes. 68—DE-21.

68—DE-21.
FOLEY, J. L., Jr.
Equipment needs for alleviating the crisis in traffic control. 68—DE-32.
FORRY, D. R.

see ZEIDMAN, G. G. FOSTH. D. C. see FEHR, T. D. FRANCIS, G. A.

Design of equipment for challenging environments. 68—DE-41.

FRANKEL, J. I. Incineration of process wastes. 68-WA/ INC-1. FRAZZINI, R. M. see BAYATI, J. E.

FREDLAKE, J. J. see KECK, M. F.

FREESE, C. E., OWEN, N. L., AND YAMASHITA, I. Field assembly and erection of heavy-wall hy-drocracking reactors. 68—WA/PVP-11. drocracking reactors.
FREUDENSTEIN, F.

see LORENZO, J. J. FREY, K. P. H.

Flume studies substantiating detailed, time-de-pendent phenomena of detached flows. 68—FE-34.

FRIEDLI, F. L. Compressor load control systems. 68-PET-

FRITZ, T. T., AND JUNG, R. M.
Proposed ASTM specifications for gas-turbine
fuel oils. 68—PWR-5.
FROEHLICH, K. F.

Criterion for evaluating diesel-engine performance. 68—DGP-15. ance. 68—DGP-FROST, W. see ERASLAN, A. H.

FULMER, B. A. see GARNER, P. B. Fuls, G. M.

Containment transient resulting from accidental loss of coolant in pressurized water nuclear reactor. 68—PWR-14.

FUNG, Y. C. see LEE, J. S. FUNK, C. W. see DESSAU, P. P. FUTER, R. E.

Conveying solids with cooperating series of air jets. 68—MH-31.

G

GARCIA, D. J., WILHOIT, J. C., JR., AND MERWIN,

Current-induced bending moments in laying off-shore pipeline. 68—PET-6. GARFINKEL, F.

see Sutera, S. P. Garner, P. B., and Fulmer, B. A.

Air starting systems for marine gas turbine engines. 68—GT-46.

GARRETSON, B. B.

see SEBASTIAN, F. B. GENOVA, P. I.

Synthesis of spring equivalent to flywheel for minimal coefficient of fluctuation. 68—MECH-65.

Mass and velocity error effects on the perform-ance of hydraulic energy absorbers. 68— WA/DE-10.

GHAZI, H. S. Some pressure measurements at surface and throat of a pipe orifice. 68-WA/FM-3. Application of integrated circuits. 68—DE-GHEST. R. C. GIANNOTTI, H. see DUROCHER, L. J. GIARDINI, A. A.

Brittle rock failure under triaxial stress. 68— WA/PT-3. GITZENDANER, L. G. see WALLACH, J. GLASGOW, J. S., AND BARTILSON, B. M.
Design of tools for field and underwater use.
68—DE-43. GLASSMAN, A. J. see STEWART, W. L. GOLDBLUM, K. B. The polycarbonates.
Golden, B. G.
see Martin, H. W. 68-DE-12. GOLDSCHMIED, F. R. The jet-flap in centrifugal turbomachines. 68—GT-56. GORMLEY, J. F. see FRANCIS, P. H. GORTON, R. L.

Analysis of the effect of using reactive coolants in porous-body cooling. 68—HT-31.
GOUZOU, J. see DEFFET. L. GRADON, K., AND MILLER, S. C.
Spey combustion-development for military applications. 68—GT-21.

GRAY, D. L. Standard for the design of pumps for water-cooled reactor systems. 68—WA/PTC-3. GREEN, L., JR.

Energy for an Inland Agro-Industrial Com-munity. 68—WA/ENER-12. GREENSTREET, W. L., MOORE, S. E., AND RODA-BAUGH, E. C.

Investigations on piping components, valves, and pumps to provide information for code writing bodies. 68—WA/PTC-6.

GRIFFITH, N. J. see BURNS, W. H.

GUSTAVSON, R. E.

Design of planar torque-transmitting four-bar linkage. 68—MECH-40.

HAAS, C. J. see CLARK, G. B. HACKMAN, L. E.

Structural applications of honeycomb materials. 68—DE-33.

HAGEBOECK, J. T., AND ROBERTS, W. S. An optimum application of austenitic nodular iron for gas turbine components. 68—GT-47. HAIN, K.

Use of design charts for determining dwell mechanisms. 68—MECH-55. HALL, A. M., ROACH, D. B., AND VAN ECHO, J.

Some properties of HF, HH, HK, and HN alloys. 68—PVP-6.

HALL, A. S., JR. Pin gearing. 68—MECH-58. HALSEY, G. H.

A status report on ultrasonic inspection meth-ods for rubber bond condition. 68-WA/ RP-5.

HAMBLETON, W. V.

General design considerations for gas turbine waste heat steam generators. 68—GT-44. HANSEN, A. G., AND NA, T. Y.

A jet pump cavitation parameter based on NP-SH. 68—WA/FE-42.
HANSTEEN, H. B., AND KRIKWAMA, J.

The fossilectric ratio. 68—WA/PEM-3. HARDEN, D. G. see Walker, B. J. Haring, J. M., and Berdon, L.

Upgrade engine system using scavenging air coolers. 68—PET-27.
HARRIS, J. C., AND STEINMETZ, E. A.
Emulsified gas turbine fuel. 68—GT-17.

HARRIS, W. J. see Madonna, M. A. HARRISBERGER,

see SONI, A. H. HARTWICK, W. Efficiency chara Efficiency characteristics of reciprocating com-pressors. 68—WA/DGP-3.

see AGGARWAL, T. C. HAWLEY, J. K.

see WALLACH, J. HAY, H. R., AND YELLOTT, J. I.

Construction and operation of a naturally air-conditioned building. 68—WA/SOL-2.

HEAD, M. R. HEISER, W. H. SEC WEINBERG S I. HELFANT, M. A. see HLAVAC, P. J. HENDERSON, J. M.

Synthesizing mass flow meter for granular materials using momentum equations of variable mass system. 68—MH-7.

HENNESSY, J. J.

Iron deposition and well fouling at Brook-haven National Laboratory. 68—WA/ PEM-1.

HENRY, S. L. see Nelson, F. W. HERMAN, A. S., JR.

Measurement of transient vibrations—A telemetry torsiograph. 68—DGP-13.

HESCHELES, C. A.

Burning all industrial wastes in a central fa-

cility. 68-PEM-10.

HIEGEL, J. see TESAR, D.

HIGH, M. D., AND MEGONNELL, W. H. Development of regulations for sulfur oxide emissions. 68—PEM-6.
HILDEBRAND, L. R., AND ARMSTRONG, D. A.
Tolerance factors in P/M parts production.

HILL, R. B. Use of flame sprayed coatings for reduction of initial and subsequent repair costs of gas turbines and components. 68—GT-16.

turbines and HINDERER, J. H. see WOMACK, B. F.

HIRAL H. see NAKAO. I HOFFMAN, E. J.

Nusselt condensing coefficients for circular tubefields. 68—WA/HT-25. Pressure drop in condensation. 68-WA/HT-

28. HOFFMAN, H. W. see KIDD, G. J., JR. HOHENEMSER, K. H.

Conflicts in engineers' responsibilities: public issues oriented information by independent groups of experts. 68—WA/AV-1. groups of HOLBROOK, E. L.

Pneumatic valve control. 68-DGP-7.

PREUMATIC VALVE
HOLLER, R. A.
see DALE, J. R.
HOLMES, A. B., AND CAMPAGNUOLO, C. J.
HOLMES, A. B., and Campagnuolo, c. y. Fluidic power amplifiers for valving systems. 68—DE-30.

HOLT. B. see SAVAGE, H. K.

SCE SAVAUE, FI. B.

HONIGSBERG, C. A., IMPAGLIAZZO, A. M., AND
ESCHENBRENNER, G. P.
Fabrication problems with heavy pressure
equipment. 68—PVP-14.

HORLACHER, W. R., JR.
see STITES, J. G., JR.
HORNE W. G.

HORNE, W. G.

Hydraulic systems for a 140-ft radio telescope. 68—WA/PEM-2.

HOUDA, J. C. An automatic machine for percussive welding of contacts on miniature wire spring relay single wire combs. 68—WA/PROD-19.

HOWARD, J. B. Combustion of solid refuse. 68-WA/INC-

Howick, G. J. Tapping the practical technological advances from NASA projects. 68—DE-8.

HSU, J. J. see CARLSON, C. W.

HUANG, Y. S. see ENO, B. E.

HUFFMAN, F. N., AND DOYLE, E. F.
Design of an implantable, Rankine-cycle circulatory support system. 68—WA/ ENER-10.

HUFFMAN, F. N., COVELLI, V. H., SANDBERG, G.
LEE, R., NORMAN, J. C., AND SPIRA, J.
Studies of reject heat and radiation from implanted radioisotope sources. 68—WA/
ENER-11.

Hung, J. C., and Bennett, J. E.
Design of low sensitivity sample-data control
systems. 68—WA/AUT-15.

HUNTLEY, A. C. see KAUFMAN, B.

HUSEN, C., AND SAMANS, C. H.
How to prevent problems with stainless steels
in petroleum refineries. 68-unnumbered.
HUSSEY, C. E.

Some operating experiences with gas turbines approaching the maximum limits of the proposed ASTM No. 3 Fuel Specification. 68—GT-28.

IMPAGLIAZZO, A. M. Tube-to-tubesheet attachment welds.

IMPAGLIAZZO, A. M. IMPAGLIAZZO, A. M. see HONIGSBERG, C. A. ISEMAN, J. M., AND TRASK, R. P., II The application of fluidics to low power logic circuits. 68—DE-29.

IVANOV, B. see PLATONOV, P.

Iyor, H.

Some properties of new point contact system of helical gearings. 68—MECH-56.

IZUMI, S., OMOTEHARA, I., YANO, T., KUSHIYAMA, T.

Matching of achoust turkecharant to the

Matching of exhaust turbochargers to two-cycle diesel engines. 68—DGP-9.

JACKSON, C. Shaft alignment 68—PET-25. ent using proximity transducers.

JACKSON, D. R. see Wisniowski, H. U. JACOBY, S. L. S. see MALLONEE, R. C., II

JAFFE, A. V., AND RUBILOTTA, P. J.
A 3000-psi hydrostatic facility (for static and
dynamic pressure tests). 68—WA/UNT-

JAIN, A. K. see BISHOP, J. W. JAKUBOWSKI, M.

Pneumatic analog-digital and digital-analog converters. 68—WA/AUT-16.

JASINSKI, R. Organic and molten salt electrolytes. 68-DE-37.

DE-37.

JENNINGS, L. C., AND MISULIS, E. V.

Hydraulic starting of marine gas turbine engines. 68—GT-29.

JENSEN, D. F., AND SCHAFFER, R. R.

Diaphragm-actuated fluidic interface devices.

68—DE-48.

JENSEN, P. W. Kinematic space requirement and efficiency of coupled planetary gear systems. 68— MECH-45.

JOHANSON, J. R.

see JENIKE, A. W. JOHNSON, E. G.

Development of fluidic controls for advanced integrated propulsion systems. 68—GT-

60.

JOHNSON, H. A., AND BHAT, G. K.
Electroslag remelted superalloys for gas turbine engines. 68—GT-27.

JOHNSON, J. O., FETTERHOFF, K. I., AND WILLIAMSON, J. S.

From millivolts to megawatts—control of large gas turbines. 68—GT-49.

JOHNSON, V. E., JR., THIRUVENGADAM, A., AND KOHL, R. E.

KOHL, R. E.

Rock tunneling with high-speed water jets utilizing cavitation damage. 68—FE-42.

JHNSON, W. S., AND YANG, T.

A mathematical model for the prediction of the induced flow in a pulsejet ejector with experimental verification. 68—WA/FE-JOHNSON 33

JONES, G. W., JR. Unsteady lift forces generated by vortex shedding about a large, stationary, and oscillating cylinder at high Reynolds numbers. 68—FE-36.

JONES, M. S., JR. see DICKS, J. B. JORDAN, B. W., JR.

Representation of cross product in matrix form, with applications to kinematics. 68—MECH-48.

JORGENSON, S. M.

Closures and shell joints for large high-pressure cylinders. 68—PVP-9.

JOYCE, T. J. see ELLIOTT, H. H. JUNGE, R. M. see FRITZ, T. T.

KALKSTEIN, M. Responsibilities of engineers. 68-WA/AV-

KAO, T. Y. see WOOD, D. J. KAR, S.

see RAGHUNATHAN, S.

KARDOS, G.

Correlation and analysis of Bourdon tube test data. 68—WA/PT-1. KASPER, R. J.

Temperature distribution for induction through-

heating of magnetic materials to forging temperature. 68—HT-30. KATTCHEE, N.

see Benson, G. M.
KAUFMAN, B., DAVEY, T. B., SMELOFF, E. A.,
HUNTLEY, A. C., AND MILLER, G. E.
Development of mechanical heart assists.
68—WA/BHF-4.

KECK, M. F., SCHWENT, G. V., FREDLAKE, J. J., AND MINSHALL, B. J. A turboprop engine advanced adaptive fuel control with a high contamination tolerance. 68-GT-45.

KELLER, K. H.

High pressure test chambers—State-of-the-Art. 68—WA/UNT-8.

KELLEY, L. R., AND BOOTHE, W. A.
Hydraulic fluids. 68—WA/FE-26.
KELLY, V. P., AND OWEN, T. J.

A controlled environment storage test facility for nuclear waste containers. 68-WA

KENTFIELD, J. A. C.

An approximate method for predicting the per-formance of pressure exchangers. 68— WA/FE-37. KEREKES, Z.

see BRYERS, R. W.

KERKLO. P.

Development of high-pressure high-flow turbo-charger for tomorrow's high-output diesel and spark-fired engines. 68—DGP-18. KEUSENHOFF, J.

see DETTMERING, W. KEY, P. L.

The effect of yielding on the strain energy re-lease rate. 68—WA/MET-17.
KIDD, G. J., JR., STELZMAN, W. J., AND HOFF-MAN, H. W.

The temperature structure and heat transfer characteristics of an electrically heated model of a seven-rod cluster fuel element. 68—WA/HT-33. KIELING, W. C.

see PETERSON, D. W.

KING, R. J., AND AUDETTE, R. R.

Correlation of gas turbine exhaust silencer per-formance in the laboratory and in service. 68-WA/GT-9.

KLOSNER, J. M. see BERGLUND, J. W.

KNOX, A. E. see CHEN, C. F. KOCHANEK, G. E.

Plotting tooth profiles for gears with the computer. 68—DE-7.

KOHL, R. E.

KOHL, R. E. see JOHNSON, V. E., JR. KONSTANTINOV, M. C., AND RASHEV, M. N. Kinematic and dynamic analysis of rotary epi-cyclic engine. 68—MECH-64. cyclic engine. Kooistra, L. F.

Advancement in pressure-vessel technology and its challenge for the future. 68—PVP-2.

KRAFT, H. Nonsteady flow in the turbine, recent work and thinking. 68—FE-41.

KRAMER, J. J.

Subsonic transport aircraft engine noise. 68-GT-61

KRAMER, R. J.

Advanced features incorporated in the Miami County, Ohio, incinerator. 68—WA/INC-

KRAUS. H.

see ROTONDO, P.

KRAUSE, E. W. Management of a maintenance department. 68—PEM-21.

KRAUSE, W. E., JR. see Sizer, P. S. KRIKWAMA, J.

see HANSTEEN, H. B.

KRUPKA, R. M., AND BAUMANIS, A. M.
Bending-torsion mode of a rotating taperedtwisted turbomachine blade. 68—WA/ GT-6

Ku, T. C.

see PIMBLEY, W. T.

KUCHAR, N. R., AND SCALA, S. M.
Design of devices for optimum blood flow.
68—DE-52.

KUKIN, I.

Chemical supplements for diesel air pollution control programs. 68—DGP-14.

KUSHIYAMA, T.

see IZUMI, S.

KVAPIL, R., AND TAUBMANN, H. J. Flow and extraction of solids from bins. 68— MH-32.

KYLE, R. J.

Information, computers, and design. 68-DE-57.

LADNER, C. M. see Brown, L. R. LAFFERTY, J. F., LANGE, K. O., AND CARTER, W.

M. Automatic disreefing system for parachutes. 68-MECH-34.

LAKSHMANA, RAO, N. S. see RAJAGOPALAN, K. S. LALUDE, O.

see BUCHBERG, H. LAMSON, E. R.

see CERINI, J. P. LANGE, K. O.

see LAFFERTY, J. F. LAPERASHVILI, M. L

see TAVKHELIDZE, D. S. LARKIN, B. S.

Evaluation of heat exchanger surfaces for use in gas turbine cycles. 68—WA/HT-23. LAROCK, B. E.

STREET, R. L. LARSON, C. F.

Status report on ASME topics by pressure ves-committee. 68—PVP-22. sel research committee.

LARSON, C. S.

see ADKINS, R. W. LASLEY, J.

Analysis of clamp-type separable fluid connectors for nuclear vessel applications. 68— PVP-13.

LAUTZENHEISER, C. E. see BURGHARD, H. C., JR. LEE, J. S., AND FUNG, Y. C. Experiments on blood flow in lung alveoli models. 68—WA/BHF-2.

LEE, R. see HUFFMAN, F. N.

LEINHARD, J. H. see BRUN, R. F.

Lenherr, F. K., and Carter, A. F.
Correlations of turbine blade total-pressure-loss
coefficients derived from achievable stage
efficiency data. 68—WA/GT-5.

LENZ, R. G. he roundness standard in use. 68—WA/ LUB-7.

LEONARD, D. N. What is available in solid-state devices? 68—DE-27.

LETENDRE, R. P.

see Marshall, R. C. Leung, P., Moore, R. E., and Biese, J. J. The thermodynamic and economic appraisal of multipressure condensers. 68—PWR-

10

Lewis, D. W., and Falkenhagen, G. L. Synthesis of noncyclic multiple input mechanism. 68—MECH-52.

nism. 68—MEC Lich, R. L. see Bateson, N. E. Liljelund, R. J. H. see Osborn, H. H. Lindberg, E. E.

Effects of mechanical and electrical filtering on roundness measurements. 68—WA/LUB-

11. Lino, C. L., and Derienzo, P. P.

The design of a passively containment struc-ture. 68—WA/NE-3. LINTNER, R. E.

Wear-resistant ceramic applications in the petroleum industry. 68—PET-2.

LOHSE, G. E.

see BENDIXSEN, C. L.

LONG, D. A.

Weighing the value of a performance appraisal program. 68—DE-24.

LORENZO, J. J., CH'AO, G., WOO, L. S., AND

FRUEDENSTEIN, F.

Kinematic design using computer graphics. 68—MECH-37. Lowe, J., and Boos, J.
Production of self-acting gas bearings. 68—

WA/LUB-4.

LYMAN, R. S.
Propane thermodynamic property equations.
68—WA/PID-7.

MABIE, H. H., AND BROWN, R. S.

Design of four-bar function generator by curve matching. 68—MECH-46.

MCALLISTER, R. A.

On-steam cleaning of heat-exchanger tubes
—fouling prevented by regular brushing.
68—PET-12.

MCBRIDE, C. M. see BECKMAN, H. McCandless, J. M. see DALE, J. R.

MCCLURE, E. R. see WATTS, R. G. McConnell, B. D.

see BENZING, R. J. McCrea, D. H., Field, J. H., and Bauer, E. R.,

The alkalized alumina system for SO₂ removal: design and operation of a continuous pilot plant. 68—WA/FU-3.

plant. 68—WO/McDonald, C. F.
A circumferentially oriented modular gas turrecuperator. 68—GT-50.

MCELIGOT, D. M.
see REVNOLDS, H. C.
MCKEE, R. B., JR., AND SINES, G.
A statistical model for the tensile fracture of
parallel fiber composites. 68—WA/RP-7.
MCKIBBEN, A. H.
see NG, C. C. W.

MCKINLAY, W.

Current practices in molded gearing. 68—DE-59.

McLaren, D. B.

Selection of computing systems for engineering application. 68—DE-34.

McLean, L. A., and Mims, W. E.

Performance of freight car brake regulators during static and dynamic conditions. 68—

MACMILLAN, J. H.

Nuclear steam generator design problems of the future. 68—PWR-11.

McParlan, J. L.

Scheduling and planning boiler and turbine overhaul work. 68—PEM-15.
MADONNA, M. A., ANDERSON, R. C., AND HAR-

RIS, W. J. Investigation of environmental effects on pure fluid amplifiers. 68—WA/FE-31.

MAHLMEJSTER, J. F. see BEYER, F. R. MALLETT, R. H.

MALLETT, R. H.
see MARCAL, P. V.
MALLONEE, R. C., II, AND JACOBY, S. L. S.
Plane turbulent compressible wall jet with and
without parallel free stream. 68—FE-40.
MANION, F. M.

Dynamic analysis of flueric proportional amplifiers. 68—FE-49.

MANNING, J. R.

Some resonance tube experiments. 68-FE-

MANOLESCU, N. I., AND ANTONESCU, P.
Structural synthesis of planetary mechanisms
used in automatic transmissions. 68—
MECH-44. MARCAL, P. V.

Elastic-plastic analysis of flat plates by the finite element method. 68—WA/PVP-10.

see STEVENS, S. J.

MARKS, C. F., AND SHREEVE, C. A., JR. by a stream of successive air bubbles. 68— WA/FE-40. An investigation of the entrainm

MARKS, C. H. A new breed: the industrial project manager. 68—WA/MGT-6.

MARLOWE, D. E.

MARLOWE, D. E.
Public interest—first priority in engineering design? 68—WA/AV-3.

MARSHALL, R. C., AND LETENDRE, R. P.
Influence of inlet geometry on flow in the entrance region of a nuclear reactor rod bundle. 68—WA/HT-34.

MARTIN, H. J.

Disposal of metal bearings wastes—treatment alone is not enough. 68—WA/PID-11.
MARTIN, H. W., AND GOLDEN, B. G.

Modular approach to engine silencing as re-lated to compressor-station noise abatement. 68—DGP-2.

MARTINI, W. R.

A Stirling engine module to power circulatory assist devices. 68—WA/ENER-2.

MASSEY, J. L., Jr.

see SHOUMAN, A. R. MASSOUD, M. F.

MASSOUD, M. F.
see MORCOS, W. A.
MATTAYI, J. L., AND SEIBERT, A. G.
Feasibility evaluation of boron filament-wound
pressure vessel. 68—PVP-21.

MATTISON, J. T., JR.

Design of yard control equipment for perfect car handling. 68—WA/RR-6. MATTU, R. K., AND BAUM, J. V. A separable tube connector and specialized seal generated by computer-aided design technique. 68—DE-6.

MAYER, A. see CRANE, R. A.

MAYER, M., JR., AND RUSCA, R. A. Progress toward a fundamentally new cotton spinning system. 68—TEX-2.
MEGONNELL, W. H.
see HIGH, M. D.

MELLOR, G. L. see PATEL, A. T.

MERWIN, J. E. see GARCIA, D. J.

MEYERS, C. A see CARLSON, C. W.

MEYERS, P. S. see SHIPINSKI, J. Micillo, C., and Staebler, C. J., Jr. Chemical milling. 68—DE-36. Miles, J. E. P.

see CARLETON, A. J.

MILLER, F. W. Developing effective compensation programs for engineers. 68—DE-49.

MILLER, G. E.

see KAUFMAN, B.

MILLER, N. L., AND WADE, P. A.

Precision-balanced pressure indicator for a
compressor and data-reduction technique for the acceptance test. 68-DGP-3

see GRADON, K.

MILLIGAN, M. W.

Predicting gas flow rates in vacuum systems. 68—WA/PID-5.

MIMS, W. E. see McLean, L. A.

MINGO, G. R. see TIPPETTS, T. B.

MINSHALL, B. J. see KECK, M. F. MISULIS, E. V.

see JENNINGS, L. C. MITTENBERGS, A. A.

Profile contact ratio of involute gearing. 68-MECH-35.

MOHSEN, A. M. see EMERY, A. F.

Designing flush cylinder-to-cylinder intersec-tions to withstand pressure. 68—PVP-17. MOONEY, R. N.

Savings through use of value analysis techniques in engineering. 68—DE-44. niques in engineering. 68—DE-44.

Moore, C. J., Jr., Atkins, H., and Blum, H. A

Subject classification bibliography for thermal contact resistance studies. 68—WA/HT-

MOORE, H. B. see WALLACH, J.

MOORE, R. E. see LEUNG, P.

MOORE, S. E. see GREENSTREET, W. L.

MORGENWECK, F. E.

Performance testing of large natural draft cooling towers. 68—WA/PTC-4.

MORRISON, W. E.

Simulated models of future energy demand— probabilities and contingencies for 1980 and 2000 A.D. 68—PWR-4.

MORSE, I. E., JR. see SCROGGIN, J. T.

MOSCHINI, F. N. Design considerations of USAS B31.7, nuclear power piping. 68—WA/PTC-2.

Mosco, C. A. see Wojcik, C. K.

Moser, J. R.

Handling interface problems between electron-ic and machine components. 68—DE-40.

MUIR, C. D. see CLARK, G. B.

MUNGER, H. P. High-strength 9Ni-4Co alloys for high-pressure applications. 68—PVP-19.

MURPHY. G. see NAISMITH, D. P.

MURPHY, W. J. H.

City of Chicago's air pollution control program. 68—PEM-1.

MURTHY, C. R.

On the settling of dust particles borne by hot chimney plumes. 68—WA/APC-3. MUSTER, D.

see BRUNER, J. D.

MYERS, G. H., THUMIN, A., AND REED, G. E. A power transfer device for mechanical hearts. 68—WA/ENER-16.

NA. T. Y. see CAIRNS, J. R. NAISMITH, D. P., AND MURPHY, G.

Unseparated fission products as a heat source. 68—WA/NE-4.

NAKAO, K., HIRAI, H., AND OMORI, T.

Two years experience of a gas turbine firing residual fuel. 68—GT-11. NASH, C. D., JR.

Management planning to avoid technological obsolescence of engineering and scientific personnel. 68—WA/MGT-10. NAUGHTON, D. A.

Protection of rotating machinery. 68-PET-

NEEB, A. F.
Maintenance cost controls. 68—PEM-12. NEFF, J. J.

New family of compact Cummins turbochargers. 68—DGP-12.

NEILL, D. E.

Measurement of rotating machinery vibration and factors affecting instrument accuracy.

68—WA/FE-48.

Nelson, F. W., AND BACHER, J. F.

Corrosion protection process for edges of por-celain enameled products. 68—DE-5. NELSON, F. W., ARBTER, U. J., AND HENRY, S. L.

Glass-lined pipe for the petroleum industry. 68—PET-1.

NELSON, W. J.

Swage-bond process for joining aluminum pipe. 68—PET-16.

NEUBAUER, L. W.

Development of simplified empirical formula for lateral pressures of hay wafers. 68—

MH-28.
Newgard, P. M., and Eilers, G. J. Intact skin transformer for artificial hearts. 68—WA/ENER-7.

NG, C. C. W., McKibbin, A. H., and Parks, A.

Performance of the orifice-compensated hydrostatic face seal under pressure and thermal loading. 68—WA/LUB-6.

NITZ, A. see CUBRINSKY, A.

NIXON, J., WALLACE, T. J., AND BEERBOWER, A.

Emulsified fuel for military aircraft. 68— GT-24.

NOEL, L. E.

Maintenance planning in small plants. 68-PEM-17. NOLTE, G.

see STOTT, T. E. NORMAN, J. C.

see HUFFMAN, F. N. NORRIS, E. B., WATSON, P. D., AND WYLIE, R. D. Consideration in design of tube-to-tubesheet joints in high-temperature heat-exchange equipment. 68—PVP-11.

0

O'LOUGHLIN, J. R see BELLAMY, L.

OMORI, T. see NAKAO, K.

OMOTEHARA, I. see IZUMI, S. O'NEILL. D. A.

Governing gas turbine engines for marine pro-pulsion. 68—GT-54.

O'NEILL, J. P. Hydrodynamics of stillwells.

OPPENHEIMER, E. D., AND BERRY, J. T.
Measurement of short-transverse tensile
of rolled steel plate. 68—PVP-18.

ORCUTT, F. K Detection of mechanical component malfunc-tion caused by friction and wear. 68—

DE-28. OSBORN, H. H., SHAH, R. K., LILJELUND, R. J. H., WOLF, P. C., AND EICHHORN, R. Performance and potential of perforated plates as a heat transfer surface. 68—GT-33.

OWEN, N. L.

see FREESE, C. E. OWEN, T. J. see KELLY, V. P. 68-FE-38.

PALMER, M.

Plant layout principles for hydrocarbon proc-essing. 68—PEM-2.

A numerical solution for the mechanical be-havior of cylindrical fuel elements. 68—

PARKER, G. E.

Hydromechanical fuel control for portable gas turbine generator sets. 68-GT-43

PARKS, A. J. see NG, C. C. W.

PARROT, T. L. see CHALIFOUX, H. D.

PASCHKIS, V.

Conflicts in engineers' responsibilities—personal decision. 68—WA/AV-4.

PATE, S. R.

Errors in sonic nozzle mass flow measurements at high supply pressures and moderate temperatures due to real gas effects. 68 peratures of WA/FM-4.

PATEL, A. T., AND MELLOR, G. L.

Analytical investment of fully developed laminar flow with heat transfer and variable fluid properties in a rotating tube. 68—WA/GT-10.

PEARCE, M. B., JR. see WITTEMANN, R. G.

PENTLAND, W.

see WENNBERG, J. L.

see CHALIFOUX, H. D. PETERSON, D. W., AND KIELING, W. C.

Design of coupler-driven dwell mechanisms using computer-developed synthesis curves. 68—MECH-47.

Petrie, T. W., and Pfender, E.
Heat transfer studies to a wide probe immersed in an arc plasma. 68—HT-49.
Petricaew, C. K.

Plastic coatings—a unique concept in mechanical design. 68—DE-51.

PFEFFER. A.

see WLODARSKI, A.

PFENDER, E.

see PETRIE, T. W.

PIMBLEY, W. T., AND KU, T. C.

Design for fatigue based on energy concept. 68-DF-17

PLATONOV, P., AND IVANOV, B.

Pressure of flow material on rigid walls of deep cylindrical bins. 68—MH-29.

PLEVYAK, T. J.

Improved boiling heat transfer with induced vapor bubble mixing. 68—WA/HT-29.
POIX, A., TAKAHASHI, Y., AND THAL-LARSEN, H. Hazards in pneumatic fluidic circuits. 68—WA/AUT-18.

PORTER, F. P. Crankshaft stress analysis and bearing load-carrying capacity. 68—DGP-8. POTTER, A. A.

Opening remarks at the ASME Symposium on storage, flow and handling of solids. 68— MH-10.

POTTER J H

A throttling capillary for Joule-Thomson measurements. 68—WA/PID-8. PRESZLER, H. D.

Use of integrated circuitry logic for ore-handing automation. 68—MH-39.

PRICE, H. L.

Effect of gamma radiation in vacuum on the tensile properties of polymer films. WA/RP-6.

PRICE, W. L. see Snow, F. O.

PRIDDY, T. G.

Stability of hydrostatically loaded orthotropic orgival shells of revolution. 68—PET-5. PRITZLAFF, J. A.

Design characteristics of the DEEPSTAR family of vehicles. 68—WA/UNT-3.

PROGRESS IN RAILWAY MECHANICAL ENGINEER-ING, 1967-1968. see BATESON, N. E.

PSAROUTHAKIS, J.

see Cybriwsky. A

PURSWELL, J. L.

Recognizing and reducing work stress in plant engineering and maintenance operations. 68—PEM-7.

RADZIMOVSKY, E.

Dynamic face seal with pressure equalizing de-vice for rotary drill bits. 68-unnumbered.

RADZIMOVSKY, E. I. see ADKINS, R. W.

RAGHUNATHAN, S., AND KAR, S.

Theory and performance of conical diffuser/ exit duct combinations. 68—WA/FE-45. RAJAGOPALAN, K. S., AND LAKSHMANA, RAO, N.

Performance of curved entrance 3 in. x 1/2 in. venturimeters. 68—WA/FE-44.

RAPP, G. C., AND ROSENTHAL, S. H.
Problems and solutions for sand environment operation of helicopter gas turbines. 68-GT-37

RAPPAPORT, E.

High-speed computing techniques applicable to fluidic digital computation. 68—FE-50. RASHEV. M. N.

see Konstantinov, M. C.

RATHBUN, F. V., JR. see WALLACH, J.

RAUSCH, W. see BEDENIG, D.

REED, G. E.

see Myers, G. H. REED, R. E.

see TUCKER, R. H.

REED, R. R., AND SORENSON, E. R.
Nondimensional plots in nonlinear vibrations.
68—WA/DE-7.

REID R I.

Air exposure of multifoil insulation systems. 68-HT-50. Paper 399. 11 p.

REINECKE, E. The engineer in politics and community affairs. 68-DE-14.

REISMAN, A.

Unification of engineering economy: the need and a MGT-9. suggested approach. 68-WA

REISMAN, A.

see TAFT, M. I. REISNER, W.

Parameters to characterize flow behavior of spherical and nonspherical materials. MH-40.

REISWEBER, R. C.

Development of inlet for an axial compressor. 68—GT-41.

REYLE, S. P., AND SCHRAM, J. W.

Steady-state three-dimensional analysis of towed system. 68—PET-4.
REYNOLDS, H. C., DAVENPORT, M. E., AND MC-ELIGOT, D. M.

Velocity profiles and eddy diffusivities for fully developed, turbulent, low Reynolds number pipe flow. 68—WA/FE-34.
RHODES, W. A., AND SMITH, R. L.

Development of a compact, prepackaged, highhorsepower engine compressor. 68-DGP-

RICHTER, H. P.

Self-generating Brayton cycle performance model. 68—GT-58.

RICKER, T. W., WILSON, N. W., AND WADE, J. H.

On the velocity fields in eccentric amuli. 68—WA/FE-35.

ROACH, D. B.

see HALL, A. M. ROBERTS, W. S. see HAGEBOECK, J. T.

ROBINSON, E. B. see BISHOP, J. W.

ROBINSON, R. D.

see CHALIFOUX, H. D. ROCKWELL, D. A.

BWR internal forces during fast depressurization. 68-PWR-13.

RODABAUGH, E. C.

see GREENSTREET, W. L.

RODGERS, C.

Variable geometry gas turbine radial compres-sors. 68—GT-63.

ROGERS, J. J.

performance evaluation. 68-PEM-18.

RONA, T. P.

see BARINKA, L. L. ROSE, R. K. see CHISEL, D. M.

ROSENTHAL, S. H. see RAPP, G. C.

ROTHSTEIN, A. J.

Impact of effectiveness concepts on the project manager. 68—WA/MGT-2. ROTONDO, P., AND KRAUS, H.

Buckling of an ellipsoid due to internal pressure. 68—WA/PVP-12.
RUBILOTTA, P. J.
see JAFFE, A. V.
RHUMBARGER, J. H., AND DUNFEE, J.

Current requirements and advances in rolling element bearing technology for machine tool applications. 68—DE-56.

RUMPF, W. S.

The regional development laboratory—a self-help resource. 68—DE-3. help resource. Rung, R.

see SALERNO, V. L.

RUSCA, R. A.

see MAYER, M., JR.

SALERNO, A. A.

see SMITH, M. C.

SALERNO, V. L., AND RUNG, R.

The stress distribution and spring rates in a cantilever cone ring combination. WA/DE-3.

SALTSMAN, R. D. The removal of pyrite from coal. 68-WA/ FU-2.

SAMANS, C. H.

see HUSEN, C.

SANDBERG, G.

see HUFFMAN, F. N.

SANGSTER, W. A.
Calculation of rod bundle pressure loss. 68— WA/HT-35.

SASLOVE, N.

Electrical and pneumatic actuators for aerospace applications. 68—DE-10.
SAVAGE, H. K., AND HOLT, B.
Shale oil as a future energy source. 68—

PWR-2.

SAX. J. see FELDMAN, H. F.

SCALA, S. M.

see KUCHAR, N. R.

SCHAEFER, A. O.

Metal properties council-new source of reliable metal property data for engineers. 68—PVP-10.

SCHAFFER, R. R.

see JENSEN, D. F.

SCHEEL, L. F. Independent solution for piston gas compression. 68-FE-46.

SCHINKE, K. B.

Correlation of light extinction smokemeter readings. 68—WA/DGP-6. readings. SCHMIDT, L. C.

see DEUTSCH, G. P. SCHOENHALS, R. J.

see BURMEISTER, L. C.

SCHRAM, J. W.

see REYLE, S. P. SCHRAUB, F. A., AND LEONARD, J. E. Thermal response of a reactor fuel assembly cooled by flooding under loss-of-normal-coolant conditions. 68—WA/NE-9.

SCHREMMER, G.

Endurance strength and optimum dimensions of Bellevile Springs. 68—WA/DE-9. SCHUH, N. F., JR., AND CULPEPPER, W. B. An ocean simulation laboratory. 68—WA/

IINT-2 SCHWENT, G. V

see KECK, M. F.

SCROGGIN, J. T., AND MORSE, I. E., Jr. Analysis and design of R-S-S-R spatial link-age. 68—MECH-38. SCRUTTON, R. F.

Vibrations and fractures in the machining of plastics. 68—WA/RP-3.
SEBASTIAN, F. P., ARIEY, A. F., AND GARRET-

SON, B. B.

Modern refuse incineration in Düsseldorf-a composite of the best European practices. -PWR-3.

SEIBERT, A. G. see MATTAVI, J. L. SHAH, R. K.

see OSBORN, H. H.

SHERIDAN, J. U. Evaluation of generating station maintenance using an electronic data processing procedure. 68—PEM-5.

SHERRICK, J. W. Roller bearing adapter mountings for railroad cars. 68—WA/RR-5.

SHIEH, L. S.

see Chen, C. F. Shih, C. C., and Butcher, H.

Experimental investigation of flow characteristics in a supersonic bistable amplifier.

SHIKES, N. B.

Industrial truck safety operation and maintenance of industrial trucks. 68—WA/SAF-

Shinohara, K., Suzuki, A., and Tanaka, T.
Gravity and vibration effects on flow of cohesive materials from hopper. 68—MH-3.

Gravity and vibration effects on flow of co-hesive materials from hopper. 68—MH-3. SHIPINSKI, J., UYEHARA, O. A., AND MYERS, P. S. Experimental correlation between rate-of-in-jection and rate-of-heat-release in a diesel engine. 68—DGP-11. SHOUMAN, A. R., AND MASSEY, J. L., JR. Stagnation pressure losses of compressible fluids through abrupt area changes neglecting fric-tion at the walls. 68—WA/FE-46. SHREEVE, C. A., JR. SEE MARKS, C. H. SIDHOM, M. M.

SIDHOM, M. M. see Cairns, J. R.

SILFIN, H.

Evaluation of maintenance performance in a 68-PEM-11. multiplant organization. SILVERSTEIN, C. C.

Heat pipe gas turbine regenerators. 68-WA/GT-7.

SIMONS, W. H. see FELDMANN, H. F.

SIMPSON, R. E. Preventative maintenance programs. PEM-8.

SINES, G. see BABEL, H. W.

SINES, G.

see MCKEE, R. B., JR.

Singh, D., and Yajnik, K.

Effect of compressibility on the performance of a screw pump. 68—WA/FE-43.

SIZER, P. S., AND KRAUSE, W. E., JR. Evaluation of surface-controlled subsurface safety valves. 68—PET-23.

SKOLNICK, A., AND WACHNIK, Z. G. Jets, props and air cushions. 68-GT-59

SKREINER. M. General spatial motion and deformable octa-

hedron mechanism. 68-MECH-42. SKREINER, M.

Second-order kinematic analysis of spatial R-S-T-R linkages. 68—MECH-41. SLAVIN. F. J.

High-pressure accumulator and piping system for storing and delivering energy to aircraft steam catapults. 68—PVP-20.

SMELOFF, E. A. see KAUFMAN, B.

SMITH, D. J. L., AND BARNES, J. F. Calculation of fluid motion in axial flow turbo-machines. 68—GT-12.

SMITH. E. O. System planning and optimum load dispatch for nuclear power plants. 68—WA/NE-5. SMITH, J. L., JR.

see ALMGREN, D. W.

SMITH, M. C., AND SALERNO, A. A. Engineering for low sulfur fuels. 68—WA/ APC-1.

SMITH, M. C.

Gas pressure drop of louvered-fin heat exchangers. 68—HT-27.

SMITH. R. L. see RHODES, W. A.

NAPE, E., AND VAN ROOYEN, D.

Corrosion of sucker-rod steels in a simulated sweet-oil environment. 68—PET-3.

Integral-method solution of laminar condensa-tion with shear in stagnant vapor. 68—HT-26.

SNOGREN, R. C.

Selecting surface preparation processes for adhesive bonding, sealing, and coating. 68— DE-45.

SNOW, F. O., AND PRICE, W. L. Continuous stacking and reclaiming of bulk materials. 68—MH-35.

Sorenson, E. R.

see REED, R. R.

SPIRA, J.

see HUFFMAN, F. N.

SONI, A. H., AND HARRISBERGER, L. Existence criteria of mechanis criteria of mechanisms. MECH-33.

Soni, A. H., and Harrisberger, L. Explosion of information in mechanism science. 68—MECH-54.

SPARKS, J. W., WALTERS, W. T., AND TESAR, D. Multiply separated position synthesis Part 1: Point synthesis Part 2: Function generation. 68—MECH-66.

SPOONER, S. H.
The V/STOL aircraft environment. 68—GT-

STAEBLER, C. J., JR. see Micillo, C.

STAHL, N. Computerized estimation of manpower and scheduled workloads—a concept of management control. 68—DE-25.

STANLEY, W. J. Maintenance performance evaluation. 68-PEM-9.

STEEN-JOHNSON, H. Uncertainty analysis in steam turbine testing: a report by the ASME performance test code committee No. 6 on steam turbines. WA/PTC-5.

STEIDEL, R. F., AND WEISS, H. D. Photoelastic stress exploration for preliminary design. 68—WA/DE-8.

STEIN M. see SUTERA, S. F. STEINMETZ, E. A.

see HARRIS, J. C. STELZMAN, W. J. see KIDD, G. J., JR.

STEPANOFF, A. J.

Gravity flow of bulk solids—Hopper flow characteristics. 68—MH-34.

STEVENS, S. J., AND MARKLAND, E.
The effect of inlet conditions on the performance of two annular diffusers. 68—WA/FE-38.

STEWARD, K. P. see COMPTON, W. A.

STEWART, W. L., AND GLASSMAN, A. J. Advanced concepts to increase turbine blade loading. 68—WA/GT-11.

STITES, J. G., JR., HORLACHER, W. R., JR., BACHOFER, J. L. C., JR., AND BARTMAN, J.

So. The catalytic-oxidation system for removing SO. from flue gas. 68—WA/APC-2.

STOTT, T. E., AND NOLTE, G.
Danish CODOG frigates operational progress report. 68—GT-51.

STREET, P. J. see HORN, G.

SUTERA, S. P., GARFINKEL, F., AND STEIN, M.
Dynamic response of pulmonary airways to
imposed pressure oscillations. 68—WA/
BHF-1.

SUTEY, A. M. see WALKUP, P. C.

SUTHERLAND, W. A.

Pressure-suppression/gravity-flooding containment system. 68—WA/NE-10.

SUZUKI. A.

see Shinohara, K.

SWANSON, E. Potential of the molten salt reactor for power generation. 68—WA/NE-18.

SWEET. H. J. see LATHAM, R. E.

SWITICK, D. M. see BENDER, D. J.

SZIRTES, T.

An index to characterize the overall fuel economy of an internal combustion engine. -WA/DGP-2.

TAFT, M. I., AND REISMAN, A.

On a computer aided systems approach to personnel administration. 68—WA/MGT-7.
TAGART, S. W., JR.

Plastic fatigue analysis of pressure components. 68—PVP-3.

TAKAHASHI, Y. see Poix. A.

TANAKA, T. see SHINOHARA, K. TANGER, G. E.

see CHENG, S. C.

TAO, D. C., AND BONNELL, R. D.
Four-bar linkage adjustable for constant velocity ratios. 68-MECH-39.

Three useful techniques in four-bar linkage design—a review. 68—DE-1.

sign—a review. TAUBMANN, H. J.

TAUBMANN, H. J.
see KVAPIL, R.
TAVKHELIDZE, D. S., AND LAPERASHVILI, M. L.
Simplified method of determining positions of
links of R-G-C-R- spatial mechanisms. 68-MECH-60.

TESAR, D., VIDOSIC, J. P., AND HIEGEL, J. Design charts for Evans straightline mechanism. 68-MECH-31.

TESAR, D., AND ESCHENBACH, P. W. Design in four-bar linkage system. 68-MECH-68.

TESAR, D.

See Sparks, J. W.

Tessier, K. C., and Bachman, H. E.

Fuel additives for the suppression of diesel exhaust odor and smoke. Part 1: Proposed mechanism for smoke suppression. 68—

WA/DGP-4. Tessier, K. C., and Bachman, H. E.
Fuel additives for the suppression of diesel exhaust odor and smoke. Part 2: Field trials.

68-WA/DGP-5. THAL-LARSEN, H.

see Poix, A.

THIRUVENGADAM, A. see JOHNSON, V. E., JR. THOMPSON, T. L., AND WASP, E. J.

Coal pipelines—a reappraisal. 68—PWR-8. THORPE, J. F.

On the kinematics of electrochemical machining. 68—WA/PROD-22. THUMIN, A.

see Myers, G. H. Tien, C. L.

see CRAVALHO, E. G.

TIPPETTS, T. B., AND MINGO, G. R.
Optical study of a fluidic temperature sensor.
68—WA/FE-29.
TISCHER, R. G.

see Brown, L. R. TODD, A. C. see SCARLETT, B.

Томв. H. W.

see WILDER, A. B. TORVIC, P. J.

Temperature rise and stresses due to internal heating. 68—HT-37.
TRASK, R. P., II

see ISEMAN, J. M.

TREVISIN, R. F. Sonicar. 68—WA/RR-8.

TROST, R. J.

Tampa—a computer program for the analysis of reactor fuel and clad. 68—WA/NE-8.
TRUMBLE, T. M.

see BEERY, G. T. TRUMMEL, J. M.

see CARSON, W. L.

TUCKER, R. H., DRANSFIELD, P., AND REED, R. F

Flow and filtration characteristics of wire cloth. 68-WA/FE-39.

TULLY, R. F.

Project planning and control. 68—PEM-3.
TURNER, B. E., VAN SLOTEN, J. P., AND CROTHERS, J. M.

New devices for managing the product development process. 68—WA/MGT-3.

U

Usur. E.

On the selection of optimum cutting conditions through digital computation. PROD-23. 68-WA/

UYEHARA, O. A see SHIPINSKI, J.

VACHON, R. I. see CHENG, S. C. VALENTIN, F. H. H. see Carleton, A. J. VAN ECHO, J. A.

see HALL, A. M. VAN ROOYEN, D.

see SNAPE, E. VAN SLOTEN, J. P see TURNER, B. E.

VAVRA, M. H.
Investigation of axial turbine stage. 68—FE-

VELZY, C. O. The enigma of incinerator design. 68—WA/INC-3.

Vidosic, J. P. see TESAR, D.

Applications of precision ball screws to machine tools. 68—DE-47. VOLK, R. L.

see BONNER, R. C.

VOLMER, J. Design of a mechanisms: synthesis of iterative analysis. 68—MECH-69.

WACHNIK, Z. G. see SKOLNIK, A

WADE, J. H. T. see RICKER, T. W.

Modern approach to acceptance testing of gas compressor. 68—PET-20.

WADE, P. A. see MILLER, N. L. WADHWA, S. K.

Analytical determination of geometry factor for shaped spur gears. 68—MECH-53.
WALKER, B. J., AND HARDEN, D. G.

Instability thresholds predicted by the single-phase representation of water. 68—WA/ HT-32.

WALKER, G. E., JR.

see EMERY, A. F.
WALKER, W. F., AND COX, J. E.
Recent advances in laboratory instruction. 68-PET-8.

WALKUP, P. C., AND SUTEY, A. M.
Waste heat dissipation from artificial hearts—
engineering constraints. 68—WA/ENER-

Metallurgical development for added reliability of industrial gas turbine rotating blades. 68—GT-53.

WALLACE, J. L. The future of computers in the textile industry. 68-TEX-1.

WALLACE, T. J. see NIXON, J.

WALLACH, J., MOORE, H. B., RATHBUN, F. V., JR., HAWLEY, J. K., AND GITZENDANNER, L.

Calculation of leakage between metallic seal-ing surfaces. 68—LUB-15. WALLENHORST, R. G.

A graphical aid for marketing for fully opti-mized product selection. 68—WA/MGT-

5.
WALLERSTEIN, L., JR.
A new approach to vibration isolation for low featurency sources. 68—DE-54.

A new approach to vibration isolation for low frequency sources. 68—DE-54.

WALTERS, W. T. sec SPARKS, J. W.

WAMBSGANSS, M. W., JR., AND BOERS, B. L.

Parallel-flow-induced vibration of a cylindrical rod. 68—WA/NE-15.

WASP, E. J.

SEC THAMPSON, T. T.

see THOMPSON, T. L. WATERS, K. L.

Synthesis of a pure-fluidic temperature control system. 68—WA/FE-30.
WATSON, G. W., III

Instrument function outline and preventive maintenance approach to instrument maintenance. 68—PEM-22.
WATSON, P. D.

see Norris, E. B. WATTS, R. G., AND MCCLURE, E. R. Thermal expansion of the work piece during turning. 68—WA/PROD-24.

WAY, S. see DICK, J. B. WEBER, H. E.

Transformation of transition and turbulent boundary layers. 68-FF-43

WEBER, H. E. Turbulent and transition boundary layer based on mixing length and intermittency. 68— FE-52

WEIMER, R. D., AND STREED, E. R.
Gas turbine installations. 68—GT-31.

Weinberg, S. L., and Heiser, W. H.
Use of hydrogen bubble technique in observing unsteady boundary layers. 68—FE-35.

see STEIDER, R. F.

WENNBERG, J. L., AND PENTLAND, W.

The manufacture of turbine blade airfoil contours by electrochemical machining. 68— WEITING, D. W.

A method for analyzing the dynamic flow characteristics of prosthetic heart valves. 68— WA/BHF-3.

WILDER, A. B., AND TOMB, H. W Quality factors related to electric-resistance welded pipe. 68—PET-17.
WILHOIT, J. C., JR. see GARCIA, D. J.

WILLIAMS, H. A., JR. see EPHRAIM, M., JR.

WILLIAMS, J. A.

see CLAUDSON, T. T. WILLIAMSON, J. S. see JOHNSON, J. O.

WILSON, N. W. see RICKER, T. W.

WISNIOWSKI, H. U., AND JACKSON, D. R. Evaluating wear of cylinders and piston rings by quick spectrographic sampling method. 68—DGP-1.

WITTE, L. C., AND Cox, J. E.

Measurement of rapid transients. 68—PET-

WITTEMAN, R. G., AND PEARCE, M. B., JR. Anaerobics—a new approach to gaskets.
68—WA/RP-2.

68—WA/RP-2.
WITTENBORN, H. W.
The challenge in recruiting and training minorities. 68—DE-13.
WITZKY, J. E., AND CLARK, J. M., JR.
Stratification and combustion in reciprocating engines. 68—DGP-4.
WOJCIK, C. K., AND MOSCO, C. A.
Determination of metering pin profile for prescribed impact loading of airplane landing gear. 68—MECH-50.
WOLF, P. C.
see OSRON, H. H.

see OSBORN, H. H.
WOMACK, B. F., AND HINDERER, J. H.
Identification of a class of nonlinear control
systems. 68—WA/AUT-19.

Woo, L. see Lorenzo, J. J.

WOOD, D. J., AND KAO, T. Y.
Evaluation of quasi-steady approximation for viscous effects in unsteady liquid pipe flow. 68-FE-33.

WOODWARD, J. A. Status report on the Olympus 593 for Concorde. 68—GT-64.
WOODWARD, M. L.

British experience with propulsion machine for air cushion vehicles. 68—GT-3: WYLIE, R. D. 68-GT-36

see BURGHARD, H. C., JR. WYLIE, R. D. see Norris, E. B

YAJNIK, K. see SINGH, D.

YAMASHITA, I. see FREESE, C. E.

YANG, T. see JOHNSON, W. S. YANO, T. see IZUMI. S.

YASINSKY, J. B. The solution of three-dimensional, composite media heat conduction problems by synthesis methods. 68—HT-40.

YEAGER, K., LASLEY, J., AND ADAMS, D. P.
Addition to Tesar-Vidosic approximate
straight-line maps for four-bar motion. -MECH-49.

YELOTT, J. I. see HAY, H. R.

YURENKA, S.

Using boron-epoxy composites in a structural component. 68—DE-31.

ZEIDMAN, G. G., AND FORRY, D. R. Design of a high-speed barge-mounted materials-handling system. 68-DE-42.

ZERKLE, R. D. see DESRUISSEAUX, N. ZINSMEISTER, G. E. see FIDELLE, T. P., JR.

Index to MECHANICAL ENGINEERING

Volume 91, January-December 1969

the state of the s	
ABDELHAMID, A. N.	
Shock structure in transversely imping- ing jet flows (A)	70
ABERDEEN, MARQUIS OF	79
Retires as president of Council of the British Hydromechanics Research As-	
British Hydromechanics Research As-	
sociation, Cranfield, Bedford, England	101
ABLATION	
Three - dimensional boundary-layer flow	
about an ablating slender cone (A)O	76
ABRAHAMS, C. G. H. Aerodynamic stability of a cross-flow type	
finned tube heat exchanger. An inves-	
tigation of the (A)My	98
ABRASIVES	
ABS INSTITUTE, INC.	65
New trade associationAg	50
Absorbers	
Cushion hitch, The: a vibration-absorber	*0
for tractor-scrapers (A)	58
Mass and velocity error effects on the performance of hydraulic energy ab-	
sorbers (A)Mr	70
sorbers (A)	69
Absorption	05
Radiative energy transfer in an absorbing and emitting media, An approximate	
and emitting media, An approximate	
method for multidimensional problems of (A)	71
ACCELERATION	
Centrifuge analysis - effects on sedi-	
mentation coefficients of angular veloc-	
ity lag, of deviations from Stokes' law of drag, and of acceleration effects (A)	
Je	64
G-limiting attachment for equipment (A)	62
Accelerators	
Machine's "solar flare" key to H-reactor	42
Accelerometers	**
Design of a shuttle accelerometer (A)S	76
ACCIDENTS	
Integrity of irradiated fuel shipping con- tainers subject to hypothetical fire acci-	
dent (A)Ap	62
dent (A)Ap Accinelli, J. B.	
Composite materials development for cryo- genic bearing retainers (A)Ap	53
ACCUMULATORS	0.0
Aircraft steam catapultsMr	42
Improved design, An (C)My Tow-type conveyors with accumulator at-	111
tachments (mechanisms which bring	
moving materials to a stop, softly) (A)	11
Acceptance I D	57
ACHENBACH, J. D. Transient shear waves in two joined elas-	
tic quarter spaces (A)D	66
Vibration of a laminated body, On the (A)	67
Vibrations of an elastic layer, An asymp-	
totic method to analyze the (A)O	81
Acker, George H. Obituary	128
ACKERMAN, ADOLPH J.	
Atomic power — who looks after public	
safety?	38 90
Protecting the public (C)	90
Small cryogenic regenerator performance	
(A)Je	61
Acoustics Detecting atomic flowMr	54

	Months den	oted by more tha	n one
Code		boldface lette	er are
(A)	Abstract	January	Ja
(AC)	Author's Closure	March	Mr
(BR)	Book Review	April	Ap
(C)	Correspondence	May	My
(D)	Discussion	June	Je
(Ed)	Editorial	July	J
		August	Ag

(Ed) Editorial July	3"
August	Ag
Excitation of an elastic cylindrical	chell
Excitation of an elastic cylindrical	N 76
by a transient acoustic wave (A)	10
Intense acoustic fields and viscous	fluid
flows, On the interaction of (A)	F 62
Lead sandwich	Jl 50
Lead sandwich	Mr 83
Use of acoustic emission to study	fail-
ure mechanisms in metal (A)	Ag 70
	Ag 10
ACTUATORS	
Hermetically sealed elbow actuator ADAMS, JOHN H.	Ja 31
ADAMS, JOHN H.	
Named supervisor, technical services	
sales, Parker Division of Hooker C	and a
Detroit, Mich	0 126
Adhesion	
Adhesion and agglomeration of s	olids
during storage, flow, and handlin	e —
a entrar (A)	Ja 43
Thermodynamics adhesian 1	1.33
a survey (A) Thermodynamics, adhesion, and al friction (A)	gains
Iriction (A)	D 64
Wheel-rail adhesion (A)	F 53
ADHESIVES	
Adhesives for threaded fasteness (A)8 70
Adhesives for threaded fasteners (A Bonding materials — adhesive bor	10
Bonding materials — adhesive bor	iding
metals (A)	S 70
ADKINS, R. W.	
Predicting the oil film thickness in	hv.
drodynamically lubricated gears	(4)
***************************************	Ар 53
AERATION AND AERATORS	
Contribution of photosynthetic reaer	etion
to total reaeration of the Passaic	Divon
(A)	S 80
(A)	00
Effect of injected air on the rate of	How
of solids (A) Field testing of aerators in waste ment plants (A) Methods and procedures for testing	Ja 44
Field testing of aerators in waste t	treat-
ment plants (A)	S 80
Methods and procedures for testing	sur-
face aerators (A)	S 79
face aerators (A) Optimization of a class of river aer	ention
problems by use of multivariable	dis.
tributed parameter control theory	(A)
tributed parameter control theory	S 79
Specification and selection of mechanical	anical
aeration equipment (A)	S 80
AERIAL TRAMWAY	
	D 56
AERODYNAMICS	2. 10
Aerodynamic drag on vehicles in to	
(A)	0 75
Aerodynamic stability of a cross	s-flow
type finned tube heat exchange	r. An
investigation of the (A)	My 98
Aerodynamia torque converter for	
turbines (A)	Ag 68
turbines (A)	Ag 08
Effects of transpiration cooling of	tur-
bine stator blade aerodynamics, E:	kperi-
turbines (A)	Jl 64
First aerodynamic torque converte	r for
First aerodynamic torque converte gas turbines, Design and test of	f the
(A)	Ag 68
(A) Three-dimensional boundary layer	s on
cones at small angles of attack (A)Je 66
Turbine blade cooling Company	namic 00
Turbine blade cooling, Some aerody	
aspects of (A)	JI 60
AERONAUTICS	
Computer-generated graphics in	aero-
space design and analysis (A)	S 70
Manned aerospace simulation (A)	

AGARWAL, URMILA	
Unsteady laminar incompressible bound-	
ary layer flows with cylindrical sym-	
metry, Numerical investigation of (A)	
metry, Numerical investigation of (A)	74
0	
AGENCY FOR INTERNATIONAL DEVELOPMENT	
Long-lived pump0	64
AGGARWAL, T. C.	
Designing optimum dampers against self-	
Designing optimum dampers against seit-	102
	102
AGGLOMERATION	
Adhesion and agglomeration of solids	
during storage, flow, and handling -	
a survey (A)Ja	43
A Town	
Agnew, John	
	100
AGRAWAL, G. L.	
Nonlinear viscoelastic solid in uniaxial	
tension, An experimental study of a	
(A)N	73
AGRICULTURE	
Energy for an inland agro-industrial com-	
munity (A)Ap	55
AHLBECK, D. R.	
Dynamic loads caused by vehicle-track	
Dynamic loads caused by venicle-track	
interaction, A computer study of (A)	-
Ag	72
AHMED, S	
Turning vanes in a square conduit elbow,	
Desformance of (A)	73
Performance of (A)0	10
Air	
Entrainment of water by stream of suc- cessive air bubbles, An investigation of	
cessive air bubbles. An investigation of	
the (A) My	104
the (A)My General equations of two-phase systems	
and their applications to air-water	
and their applications to air-water	
bubble flow and to steam-water flash-	-
ing flow (A)N	72
Heat transfer by a square array of round	
air jets impinging perpendicular to a	
flat surface including the effect of	
flat surface including the effect of spent air (A)	58
Simplifying air measuring and balancing	-
Simplifying air measuring and balancing	48
N	98
AIR BEARINGS	
Air bearing lift padAp	38
AIR CARGO	
Air cargo, International Forum for	
5th biennial, 1970	-
Preview	93
AIR CHAMBERS	
One-way air chambers for pumping plants	
	61
(A)F	
AIR CONDITIONING	
Naturally air-conditioned building, Con-	
struction and operation of a (A)Mr	66
AIR CUSHIONING	
The state of the s	70
	"
AIR POLLUTION. See POLLUTION, AIR	
AIR POLLUTION CONTROL ASSOCIATION	
APCA annual meeting	
Arca annual meeting	
New York mayor presents three-point plan for air pollution controlAg	***
	79
Aircraft	
Aircraft steam catapultsMr	45
Improved design, An (C)My	111
Airplane jet fuel service-station style	
(A)N	64
Bird stopperAg	51
	-
Commercial aircraft propulsion systems,	
Design requirements and objectives for	
(A)	67
Controlling future jet engines	25
Engine inlet on the 747, The (A)Jl	64
Engine inlet on the 747, The (A)Il Gas bearings for small high-performance	
aircraft gas turbines, Feasibility of (A)	
	6
Less bounce to the ounceJa	3
Letdown, A (C)	4
	-
Management and control of product en-	-
gineering changes for aircraft (A)S	61

AIRCRAFT (Continued)		ALTMAN, M.		AMERICAN SOCIETY FOR TESTING AND	
Skid roadF	42	Thermal diffusivities of thermal energy		MATERIALS	
Smoke emission	103	storage materials, The determination		Honorary membership presented to	
Superalloy development for aircraft gas turbines (A)	62	of:		Article of bitalian lilling	126
AIRCRAFT EQUIPMENT	62	Part 2-Molten salts beyond the melting		Presents 1968 Charles B. Dudley medal to	
Long-lived jointS	**	point (A)Ap	55	Frank J. HeymannMr	101
AirFlow	52	Thermal transpiration for the development of a new type of gas pump, A study of		AMERICAN SOCIETY OF CIVIL ENGINEERS	
Effect of airflow on the behavior of foam		(A)Ap	55	ASME to participate in ASCE national	
as a dynamic element in shock and		ALUMINUM	90	meeting on transportation engineer-	
vibrations, The (A)Ag	66	Aluminum aspects of cost engineering		ing with two panels, 1969	
Laminar, transition, and turbulent bound-	00	(A)	65	Preview and panel programJe	97
ary-layer heat-transfer measurements		Axisymmetric elastic-plastic wave propa-	00		100
with wall cooling in turbulent airflow		gation in 6061-T6 aluminum bars of		Electronic computation, 5th national con-	
through a tube (A)N	69	finite length (A)N	75	ference, 1970	92
AIRFOILS. See TRACING MACHINES		Steel-hard, slippery aluminumJe	52	Call for papersS	00
AIRPORTS		AMATANGELO, C. J.		AMERICAN SOCIETY OF HEATING, REFRIGERA	4.
\$600 million airportD	79	Unique application of gas turbines in a		TING AND AIR CONDITIONING	
Taking the hiking out of flyingF	40	coke and coal chemical plant, A (A)		Engineers	
ALASKA		Ag	68	Carrier award presented to Richard	
Kenaj (Alaska) LNG plant design (A)		Ambrosius, Edgar E.		Barrett for paper co-authored by David	
N	60	Named emeritus professor of mechanical		W. LockinD	95
Albone, Trevor		engineering at Pennsylvania State Uni-		Presents distinguished service award to	101
British gas generators for gas turbines,		versity, University Park, PaS	113	Joseph R. ChamberlainMr	101
Development in (A)Jl	69	AMERICAN CHEMICAL SOCIETY		AMERICAN SOCIETY OF LUBRICATION	
ALBRECHT, W.		Cleaner environmentN	84	Engineers	
How thickness and material properties in-		AMERICAN GAS ASSOCIATION		Elects P. N. Ku 25th president Ag	104
fluence thermal shock stresses in flat		Garbage disposal0	102	AMERICAN SOCIETY OF MECHANICAL	
plates and cylinders (A)Ag	68	AMERICAN INSTITUTE OF CONSULTING		Engineers	
ALEUTIAN ISLANDS		Engineers		Activities and functions	
Casing the Aleutian holeN	43			Edward H. Walton joins ASME staff to	
Alford, R. N.		Special committee to study merger with Consulting Engineers Council and Pro-		formulate long-range activities and	
Knock suppressor for large gas engines		fessional Engineers in Private Practice		functionsJl	106
(A)S	75	headed by John K. M. Pryke O	126	ASME to participate in ASCE national	
ALIGNMENT				meeting on transportation engineer-	
Optical alignment instrumentJe	56	AMERICAN INSTITUTE OF INDUSTRIAL		ing with two panels, 1969	
ALLCUT, E. A.		Engineers		Preview and panel programJe	97
Stratification amplification (C)Je	72	Elects Richard A. Dudek a regional vice	***	ReviewS	100
ALLCUT, E. A., AWARD, See HONORS		Fellow membership goes to Oliver J. Size-	114	Committees	
ALLEN, C. H.		love	114	Agenda, national	
Quieter equipment, Guidelines for de-		Gilbreth, Frank and Lillian, industrial en-	114	Call for itemsAg	98
signing (A)0	79	gineering award of 1969 goes to Ralph		Boiler and pressure vessel	
ALLEN, C. W.		M. BarnesS	114	Meets with National Board of Boiler	
Elastohydrodynamic lubrication of a spin-		Honorary membership accorded Frank H.	***	and Pressure Vessel Inspectors	74
ning ball in a nonconforming groove		NeelyS	114	PreviewF ReviewJl	98
(A)0	85	AMERICAN INSTITUTE OF MINING, METALL		Public hearing on reinforced plastic	90
Squeeze film between rotating annuli,			oner-	pressure vessels — Section X	
An investigation of the (A)D	64	CAL, AND PETROLEUM ENGINEERS		PreviewAp	82
ALLEN, ERNEST C.		Awards Anthony F. Lucas gold medal of	99	Review0	115
ObituaryN	110	1969 to Clarence J. CoberlyJe	99	Flexible rotor-bearing systems tech-	
ALLEN, H. JULIAN		AMERICAN IRON AND STEEL INSTITUTE		nology	
Receives Daniel Guggenheim award for		Design in steel award program, 4th bien-		New committee to meet in L. AN	99
19690	125	nialMy	120	Food, drug, and beverage equipment	
ALLEWITZ, MURRAY		AMERICAN MANAGEMENT ASSOCIATION		committee to develop codeMy	140
Elected president of Greer Hydraulics,		Education and training, 5th annual con-		Lubricant properties committee needs	
Inc., Los Angeles, Calif	125	ference and exposition, 1969		helpMy	140
Allison, W. W.		Review0	104	Metric study, Ad hoc committee on	
Fooling the wage earner (C)Jl	73	AMERICAN NATIONAL STANDARDS INSTITUT	E	(Ed)My	11
Economic truths (C)0	93	(formerly USASI)		Nominating, national	
ALLNUTT, R. B.		ISO — the global viewS	90	1969F 73; Mr 94; Ap 83;	00
Pressure tanks for deep sea simulation		Metrication for the United States	-	My 147; Ag	95
facilities, The use and design of (A)F	54	Congress needs answer My	12	Performance Test Code Committee No.	90
ALLOYS		Is it really necessary?My	14	Performance Test Code Committee No.	
Alloy with a memoryS	90	How Britian is doing itMy	16	Report on steam turbines	
Coming: super-refined steels and alloys		Canadian view, TheMy		Uncertainty analysis in steam tur-	
Ag	44	What are the options?My	. 22	bine testing (A)My	106
Effect of density change of the solidifica-	60	Metric — there and here (C)Jl	71	Pressure vessel and research	
Effect of hydrogen on the strength of	70	New name of former USASIN	84	Honors E. O. WatersAp	83
austenitic and nickel-base alloys (A)		Roundness measurement Part 2 — The proposed standardN	36	Railroad mechanical engineering, Sur-	
austenitic and nicker-base alloys (A)	71	Part 2 — The proposed standard		vey committee on progress in	
Fiber-reinforced superalloyJe 49; Ag	46	Standards dilemma, TheJe	84	Report on progress in 1967-1968	
Flow stress of 6061 Al alloy composites	40	Standards medal of 1968 goes to William	04	(A)F	52
(A)Mr	72	H. GourlieJe		Research committee on high tempera-	
High temperature alloyF	45	Why adopt the metric system?F		ture steam generation completes work	99
Hot-corrosion-resistant alloys for marine		World measurement system?J!		CouncilAp 93; My 149; N 17; N 100,	101
applications, Progress in the develop-		AMERICAN NUCLEAR SOCIETY		Executive committeeAp 94; Jl 115; D	90
ment of (A)	61	Elects		Divisions	50
Isothermal forging	47	William A Chittenden to board of di-		Art of doing, The (Ed)F	19
Levitation melting	47	rectors0		Energetics	
Superalloy development for aircraft gas turbines (A)	62	Nunzio J. Palladino as vice-president		MHD subcommittee report on cur-	
	02		125	rent status and recent attainment	
ALM, G. V.		AMERICAN PETROLEUM INSTITUTE		in MHD power generationAg	
Bonding materials — diffusion bonding		Smog studyN	51	18; (A) My	105
(A)S	71	AMERICAN SOCIETY FOR ENGINEERING		Process industries	
ALMGREN, D. W.				First award (1969) for outstanding	
Nucleate boiling with liquid nitrogen, The	4-	EDUCATION	100	contribution in water quality con-	100
inception of (A)Je	61	A systems approach to O. EMy		trol presented to Allan CywinS	102
ALTENEDER, THEODORE G.		American Society for Engineering Educa-		Lubrication division presents 1969 dis-	
ObituaryD	100	tion Western Electric award for excel-		tinguished service award to W. E.	104
ALTERNATORS		lence in teaching goes to M. M. El- Wakil		Finances	
Advanced steam turboalternator for nu-		ASEE in new quarters	81	GoalsJl 106; Ag 88; O 115; N 90; D	
clear applications, Design of an (A)Jl		ASEE to study engineering technology		Groups	22
Mechanical design of a 10-Kw Feher cycle		education		Memphis-Midsouth Group becomes Sub-	
turbo-alternator, The (A)Jl		Enrollments, fall 1968J		section of Chattanooga SectionMr	101

SME (Continued)			106	Amplifiers	
Impact on the environment (Ed)N	17		106	Environmental effects on pure fluid am-	
Inside ASME		Petroleum Mechanical Engineering	100	plifiers, Investigation of (A)Mr	65
Art of doing, The (Ed)F 8 not 6 cents saved (C)Mr	19	Plant Engineering and	100	Fluid-jet amplifier with flat saturation characteristics, A (A)	78
Mechanical engineers are civic minded	76	MaintenanceD	106	Geometrically similar bistable amplifiers,	
Ар	104	PowerD		The performance characteristics of (A)	
Proposed: more ASME authors (Ed)		Pressure Vessel & PipingD Process IndustriesD		Switching in digital fluid amplifiers (A)	62
Summing up (Ed)Ja	19	RailroadD	107	0	77
Meetings up (Ed)		Textile EngineeringD	107	Switching process in bistable fluid am-	
Annual			107	plifiers, The (A)	77
Summer 1969		Vibrations	101	Vortex amplifier, Analysis and modeling of the (A)	78
ProgramMy	146	papers from 11th National		AMPLITUDES	
ReviewAg Winter, 1970	88	Heat Transfer Conference of		Influences of large amplitudes, transverse	
Calls for papersO 123; N 105; D	94	1969	118	shear deformation, and rotatory inertia	
Winter, 1969		CatalogD Impact on the environment (Ed)N	88 17	on lateral vibrations of transversely iso-	-
Calls for papersF 75; Mr		Mechanical Engineering	17	tropic plates (A)0	81
93; Ap Post-convention vacationJe 93;	86	Even in England (C)My	111	ANAEROBICS	
S 99; O	112	Pizzazz? (C)Jl	71	Anaerobics — a new approach to gaskets	66
PreviewS 98; 0	110	Price structure adjustedJl	114	Anand, R. K.	-
Program planning conferenceMy	147	Pureto Rican depository for ASME Transactions and Mechanical Engi-		Turbulent heat transfer in concentric an-	
Winter, 1968 ReviewJa	60		149	nuli with constant wall temperatures	
Membership	00	Regional Conferences		(A)N	72
Applications and promotionsJa 101;		Administrative		Andersen, B. G.	
F 87; Mr 104; Ap 101; My 153; Je		Learning — on the RAC circuit0	89	Scuba diver performance in an open ocean	58
102; Jl 122; Ag 107; S 115; O 127;		ScheduleJa 96; F 74; Mr	94	environment, Measurement of (A)Je	98
N 109; D	98	Student Prizes presented at0	116	Anderson, D. C. Wall attachment at high Knudsen num-	
Appointed to U.S. Department of Tran- sportation's Technical Pipeline Safety		Reports on0	116	bers: experimental results (A)0	78
Standards CommitteeAg	103	ScheduleJa 96; F 74; Mr	94	Anderson, Gordon C.	
Art of doing, The (Ed)F	19	SectionsJa 47; Je	94	Promoted to manager of research and	
Complaints and compliments from Going in a circle (C)F	63	Baltimore presents U.S. savings bonds		development with the Saco-Lowell Re-	
Fellows electedJa 100; F 86;	03	and certificates of merit, in essay contest held annually during National		search and Development Center, Green-	114
Mr 102; Ap 98; My 152; Je 100;		Engineers Week, to 10th graders at		ville, S.C.	114
Jl 120; Ag 104; S 115; O 127; D	97	three schools; recognizes and ex-		Anderson, Henry R. ObituaryMy	154
Insurance New insurance benefits for members		presses appreciation to their teachers	110		104
Je	92	CanaveralMr 92; Je	119 94	Anderson, John N. ObituaryJl	124
Six ASME members elected to National		Central Indiana presents ASME ap-		Anderson, L. R.	
Academy of EngineeringS Student	113	preciation certificate to Jim Garrett		Cooled turbine efficiency, Systematic	
Awards to ASME student members		Ch-th-norm	103	evaluation of (A)Jl	67
D	80	Chattanooga Memphis - Midsouth group becomes		Anderson, P. W.	
News. See also NewsJa 60;		subsection	101	Phenolic compounds in New Jersey's	
F 73; Mr 90; Ap 81; My 130; Je 86;		Columbus, Ohio, section presents first		streams, Occurrence and distribution of	- On
JI 90; Ag 88; S 98; O 110; N 92; D	86	science fair awardMr Delaware and Philadelphia conduct PVC	101	(A)S	80
Officers 1971-1972 nominations openN	104	course	82	Anderson, R. C.	
1970-1971 election returnsN		Eastern VirginiaAp	82	Environmental effects on pure fluid am- plifiers, Investigation of (A)Mr	65
1970 nominatedAg	98	Hartford rewards top graduating sen-		The state of the s	-
1969-1970 electedN	102	Los Angeles overflow meeting hears	86	Anderson, Robert H. Elected vice-president — project man-	
		Lear (steam car described as answer		ager, United Engineers & Constructors,	
Planning, Long-rangeJl 106;		to air pollution)S		Inc., Philadelphia, PaS	114
Ag 88: O 115: N 90: D		MetropolitanJe 94; Jl	117	Anderson, W. D.	
Policy boards		Ontario presents E. A. Allcut award	105	Elastic support for a large roller bearing,	
Communications and staff		to Richard W. KeeleyO Philadelphia and Delaware conduct PVC	125	Design and load rating analysis of the	
Reflections on a year of		courseN	82	(A)0	85
serviceJe	71	San Franciscomr	91	Anderson, W. J.	
As the president sees itJa 47;		Santa Clara ValleyMr	91	Effect of three advanced lubricants on high-temperature bearing life (A)0	87
Mr 73; My 109; Je 71; S 81; O 89;		Student Sections	110	Steady-state experiments on rotating	
N N		Prizes presented	110	externally pressurized air - lubricated	
Protecting the public (C)Ag	76	bara chapter receives charterMr	101	journal bearings (A)D	61
Publications Applied Mechanics Reviews		Woman's Auxiliary		Zero-load stability of rotating externally pressurized gas-lubricated journal bear-	
AMR featured at meetingJl	82	Annual meetingJa		ings (A)D	60
Availability of		ScholarshipsF	76	Andreason, K. R.	
Annuals		AMERICAN SOCIETY OF TOOL AND		Research on plywood for material han-	
MiscellaneousAp 79; JI 87; O		MANUFACTURING ENGINEERS		dling applications (A)D	54
109; N		ASTME changes name to Society of		Andrew, James D., Jr.	
Steam tables		Manufacturing EngineersN	85	Elected ASME FellowJa	100
Formulations for the properties of steamJe	79	AMERICAN WELDING SOCIETY		ANDREW, RAYNAL W., JR.	
Symposia papersJa		Celebrates 50th anniversary at annual		Elected ASME FellowF	86
Technical papers. See also Technical		meeting and show		Andrews Curve	
Digest 1968 Winter Annual MeetingJa	119	director		Dependence of power cycles' perform-	
1969 conferences and other meet-		1970 annual meeting		ance on their location relative to the	
ings		Call for papersS	111	Andrews curve, The (A)Jl	67
Applied Mechanics		Ammonia		Anemometers	
Applied Mechanics WesternD Biomechanics and Human Factors		Anhydrous ammonia — metering (A)N		Deviations from the cosine law for yawed	
EngineeringD	102	Pipeline pumps for anhydrous ammonia (A)N		cylindrical anemometer sensors (A)	65
Design EngineeringMy 28; D		Pipelining anhydrous ammonia (A)N		Hot - wire anemometer calibration for	00
Diesel and Gas Engine	109	Storage facilities associated with an am-		measurements at very low velocity (A)	
Power	103	monia pipeline (A)N	61	0	88
FuelsAp	112	Amos, Stephen E.		Angeid, Egil	
Gas TurbineA	112	Awarded first prize in nationwide tech-		Noncontacting torquemeters utilizing	
Heat Transfer		nical article contest sponsored by Com- pressed Air and Gas Institute		magnetoelastic properties of steel	67

Angele, W.		ARIEY, A. F.	97	matic Control Conference goes to	
Flat conductor cable technology (A)S	68	Modern refuse incinerationAp	27	Marvin I. Freedman and George Zames	
Angelino, G.		Armore glass pipe system	70	Centrally controlled subwayF	114 51
Dependence of power cycles' performance on their location relative to the An-		ARMSTRONG, CECIL W.		Characteristics with application to fluid	-
drews curve, The (A)Jl	67	Chosen president for 1969 of Adhesive		lines with frequency dependent wall	
Real gas effects in carbon dioxide cycles	68	and Sealant CouncilAp	98	shear and heat transfer, A quasi meth- od of (A)Ap	61
Thermodynamic properties of carbon di-	00	Arnas, O. A.		Control with a multiplicative mode (A)	
oxide in the range 0-150 deg C, Com-		Transport processes in magnetosolidme- chanics-adiabatic conditions (A)O	81	АР	61
putation of (A)Ag	68		91	Dynamic programming approach to sta-	
ANGRIST, S. W.		ARNDT, ROGER Assistant professor of aerospace en-		bilize forced-convection two-phase flow systems with "pressure-drop" oscilla-	
Thermal contact resistance of anisotropic	-	gineering, Pennsylvania State Univer-		tions, A (A)	70
materials (A)N	72	sity, University Park, Pa., receives	110	Eckman award presented to W. Harmon	
ANISOTROPY			119	Roy at Joint Automatic Control Con- ference	114
Thermal contact resistance of anisotropic materials (A)	72	Aronson, A. H. Very-short-time, very-high-temperature		Evaluating computer control in proc-	
		creep rupture of type 347 stainless steel		esses (A)Ag	73
Annular two-phase flow		and correlation of data (A)Mr	71	Fluidic systems with long lines, Simula-	59
Part I: A simple theory (A)0	73	Азн		tion and design of (A)Ap Hazards in pneumatic fluidic circuits (A)	00
Part II: Additional effects (A)0	74	Recent experience with ash deposits in	105	11111111111111111111111111111111111111	61
Response of a viscoelastic annulus to a step transverse load (A)D	61	refuse-fired boilers (A)My	105	Identification of a class of nonlinear con-	61
Slip ratios and film roughness in annular,	0.	Assembly, On-Site Designs for closures and shell jointsJe	24	trol systems (A)Ap Identification of distributed parameter	01
viscous-turbulent, two-phase flow (A)		Field assembly and erection of heavy-wall		systems using finite differences (A)	
O Company of the comp	73	hydrocracking reactors (A)Mr	68	Ар	58
Squeeze film between rotating annuli, An investigation of the (A)	64	KSC: Spaceport for the moon		Implantable valveless heart assist pump, An (A)Ap	59
Turbulent heat transfer in concentric an-		Part 2: Building a gargantuan assem- bly line	35	Invariant imbedding and sequential inter-	
nuli with constant wall temperatures	70	World's largest building (C)D	67	polating filters for nonlinear processes	
(A)	72	Moon mission completed and recorded		(A)Ap	58
(A)Mr	62	(Ed)	25 56	Linear dynamical systems, Optimization of a certain quality of complete con-	
Antennas		Nuclear pressure vessels: site assembly	00	trollability and observability for (A)	
Lockheed donates "big dish" to Pacific		P	32	Ap	59
Union College for radio astronomyJe	76	Misleading caption? (C)My	111	Linear optimal control problems, A new approach to the solution of (A)Ap	61
ANTONSEN, ANKER K.		ASTLEY, WAYNE C.		Low sensitivity sample-data control sys-	01
Becomes design consultant to Colt Indus-		Elected ASME FellowJe	100	tems, Design of (A)Ap	60
triesN	107	ASTRONAUTS		Metalworking: a profile of the futureF	39
ANTHONY, GRAHAM H.	100	Handy maneuversS	61	New technique for identifying linear sys- tems, A (A)Ap	59
Obituary	100	ASTRONOMY Lockheed donates "big dish" to Pacific		Nonlinear optimal control by use of extra	00
APERTURES		Union College for radio astronomyJe	76	linear states to represent nonlinearities	
Stresses near an oblique elliptical aper- ture in a large plate, On the (A)Mr	72	ATKINS, A. G.		(A)Ap	59
APLENC, A. J.		Rod-drawing, Optimum die angles and		Nuclear EEL, The	23
Application of the thermoeconomic ap-		maximum attainable reductions in (A)		ocean freight transportation (A) Je	58
proach to the analysis and optimization		Му	101	Optimal state variable feedback with	
of a vapor-compression desalting sys-	80	ATKINS, H.		bounded gains (A)Ap	58
tem (A)D	59	Subject classification bibliography for		Pneumatic analog-digital and digital- analog converters (A)Ap	60
APOLLO PROJECT. See LUNAR TECHNOLOGY		thermal contact resistance studies (A)	97	Pneumatic diaphragm logic	64
APPARATUS. See INSTRUMENTS AND APPARA	TUS	ATMOSPHERE		Predictive logic control of an on-off sys-	60
APPL, F. J.	*	Global weather predictionF	44	tem with one simple sensor (A)Ap Robot-operated coating gunJe	-
Stress concentration factors for U-shaped,		Naturally air-conditioned building, Con-		Second order linear periodic system, The	
hyperbolic, and rounded V-shaped, notches (A)S	73	struction and operation of a (A)Mr	66	stability of a (A)Ap	61
APPLIED MECHANICS		ATOMIC ENERGY	40	Sensitivity in multivariable control sys-	60
Canadian Congress of Applied Mechanics		BGRR on standbyF World's largest superconducting mag-	42	tems (A)Ap Sonicar (A)F	53
William Prager named honorary chair-		netJ	46	Stochastic testing methods for fluid ampli-	
man0	126	ATOMIC ENERGY AGENCIES		fiers (A)Ap	
Arai, S.		AEC closes project	102	Tracking the sun	49 53
Hunting of railway vehicle on test stand,	50	AEC grants for equipment	85		00
Problems on (A)F ARBOCZ, JOHANN	52	AEC in ocean exploration	90 55	Automatic forgingAg	49
Buckling of cylindrical shells, The effect		Borrowed silver returnedMy	122	Automation systems for large gas pipe-	-
of general imperfections on the (A)O	81	Casing the Aleutian hole	43	line compressors (A)S	75
Arbter, U. J.		Texaco to use californium-252S	91	Computerized engine production0	
Glass-lined pipeJa	14	ATOMIC POWER. See POWER, NUCLEAR		High-speed punch press O Technical innovation — key to manu-	
ARCELLA, F. C.		ATTIA, A. Y.		facturing successJl	
Vapor velocity limit in a sodium heat		Noise of involute helical gears (A)Ja	46	AUTOMOBILES. See also BRAKES; VEHICLE	ES.
pipe, Experimental study of (A)O	87	AUDETTE, R. R.		Моток	
Arches in bins, Theory of the formation		Correlation of gas turbine exhaust silencer performance in the laboratory		All steamed upS	57
of (A)Ja	42	and in service (A)F	59	Body tooling via computer	
Elastic-plastic, work-hardening arches		AULBACH, R. E.		Braking via controlled "slip"Mr	
(A)	82	When does the "all-fuel" concept of		Dynamic dummy	
high circular arches (A)Je	65	energy make sense? (A)Je	70	Electronic gagingD	-
Shallow arches on elastic foundations	-	Aural Devices		Gear noise analyzerD	46
subjected to dynamical leads, On the	00	Speed hearing0	67	Management and control of product en-	
Strongest circular arch, The — a per-		Auslander, D. M.		gineering changes for automobiles (A)	
turbation solution (A)Je	68	Fluidic systems with long lines, Simula-	80	Natural resources management	. 00
Architecture		tion and design of (A)Ap	59	Part 1: AirMr	25
Dream capitalMr	58	AUTOFRETTAGE		Automotive pollutants (C)Je	73
Arcs		Relaxation of residual stresses in auto- frettaged cylinders, Investigation of		On the beamN	
Laser lab for leaseF	44	the (A)F		Optimization of a viscoelastic structure: the seat-belt problem (A)	
ARCTIC OCEAN		AUTOMATIC CONTROL		Outside power	
Problems of a historic voyage S	61	Automatic ferrous segregator	52	Overflow L. A. meeting hears Lear	
Angon		Automatic lawnmower0	60	(steam car described as answer to air	
New argon plantAp	74	Automatic safetyJe	57	pollution)S	101

AUTOMOBILES (Continued)		DAUKSHALL, R. G.		DARINKA, La La	
Reduces pane in the headMr	47	Boundary-layer velocity distribution in		Canless reactor fuel assemblies, A struc-	
Smog studyN	51	turbulent swirling pipe flow, The (A)		tural analysis for (A)Ap	64
Stainless-steel racing vehicle	46	0	72	Barker, V. A.	
Tire industry safety councilAg	80	BACON, RINALDO A.	4.7.	Heat pipe channel flow distributions (A)	
AUTOMOTIVE ENGINEERING		ObituaryD	100		66
Infants and children in the adult world of		BACON, ROBERT HAMILTON		BARNARD, C. H.	
automobile safety design: pediatric and		Elected ASME FellowJl	120	Named vice - president, international	
anatomical considerations for design of		BADGLEY, R. H.		operations, at Bailey Meter Co., Wick-	
child restraints (A)S	78	Rigid-body rotor dynamics: dynamic un-		liffe, Ohio0	125
New ten-mile test tractN	91	balance and lubricant temperature		BARNARD, NILES H.	
Rattle-squeak-and-dent-proofJa	29	changes (A)D	65	Elected ASME FellowMy	152
Roundness measurement	90	BAGLEY, GLENN D.		BARNES, J. F.	
Part 3 — Applying the standardD	30		100	Turbine blade cooling, Some aerodynamic	
Case histories Axial misalignment — pistol pin		BAILIE, R. E.		aspects of (A)Jl	60
bores	34	Co-head, with C. D. Hornburg, of De-		BARNES, RALPH M.	
Bearing cap offset on connecting		salting Systems and Services, Inc.,		Receives Frank and Lillian Gilbreth In-	
rodD	36	Ft. Lauderdale, Fla., new consultant-		dustrial Engineering Award for 1969	
Brake drum surface misalignment	00	engineering firmF	85	from American Institute of Industrial	
Diane dram surrace injuning	35	BAKER, P. H.		Engineers	114
Camshaft bearing distortionD	33	Progress in railway mechanical engineer-		Barnoski, R. L.	
Distortion of valve lifter holesD	34	ing, 1967-1968 (A)F	52	Mean-square response of simple mechan-	
Engine block bore distortion D	32	BAKER, W. E.		ical systems to nonstationary random	
Head gasket modificationD	33	Multicomponent force tranducer for use		excitation (A)0	82
Roundness standard in use, The (A)Ap	53	on rocket sleds (A)Ag	61	BARON, S.	
Stirling engine - a new lease on lifeJl	52	BAKHMETEFF, BORIS A., RESEARCH FELLOW	W-	Protecting the public (C)S	83
Zinc-air batteryJe	50	SHIP		BARRANGON, MAURICE	
AVIATION		Research fellowship for fluids	104	Summing up - Inside ASME (Ed)Js	9
Atomic power - who looks after public			204		
safetyJe	38	BAKKE, E.		BARRETT, RICHARD E.	
Protecting the public (C)S 82; O	90	Inverse transition in radial diffusers (A)	66	Receives Willis H. Carrier award from	
Automatic safetyJe	57	B	66	American Society of Heating, Refriger- ating, and Air Conditioning Engineers	
Avionic heat pipe, An (A)N	66	BALANCING		for paper co-authored by David W.	
Conflicts in engineers' responsibilities -		Assessing unbalance effects in a small	0.5	LockinD	95
personal decision (A)My	107	turbo-rotor (A)S	67		
Conflicts in engineers' responsibilities:		Balancing of the fluctuating input		BARRY, J. M.	
public issues oriented information by		torques caused by inertia forces in the		Natural convection in enclosed porous	
independent groups of experts (A)		crank-and-rocker mechanisms, On the	40	media with rectangular boundaries (A)	
Му	107	(A)Ja	45	······································	70
FAA near-miss programMy	123	Methods for balancing high-speed rotors,	60	Bars	
Jet slideMy	88	Significant developments in (A)Ag	62	Axisymmetric elastic-plastic wave prop-	
Photochemical ignition for high-altitude	4.00	Simplifying air measuring and balancing	48	agation in 6061-T6 aluminum bars of	
flights	47	BALDRIDGE, BRUCE H.	40	finite length (A)N	75
Responsibilities of engineers (A)My	107			Diffusion of load from a transverse ten-	
Technology and society:		Named manager, market and product		sion bar into a semi-infinite elastic	
Part 1: public interest, TheAp 24;		planning, Foxboro Co., Foxboro, Mass.	104	sheet, On the (A)Je	65
(A) My	107	DAg	104	High-frequency stress waves propagat-	
Social effects of technology (C)N	79	BALDWIN, JAMES B.		ing in bars and plates, Photoelastic	
Technology and society (C)Jl	72	ObituaryMr	105	study of (A)Je	65
AXFORD, R.		BALDWIN, R.		Longitudinal wave propagation in a cir-	
Temperatures in molten reactor fuel tube		Stainless steel primary piping for the		cular bar loaded suddenly by a radially	
bundles, Analysis of (A)Je	62	high flux beam reactor (A)F	61	distributed end stress (A)N	
AZIZ, ABDUL		BALENT, RALPH		Sine bar measures small anglesMy	86
Future of graduates (C)N	77	Appointed vice-president - power sys-		BARTALUCCI, B.	
		tems programs, at North American		Grinding process instability (A)My	100
		Rockwell's Atomics International Div.,		BARTLETT, R. N.	
		Canoga Park, Calif0	125	Coordinating engineering, manufacturing,	
		BALINT, IMPRE		and marketing of new products with	
B		ObituaryJe	102	simplified PERT/CPM (A)S	
			100		-
		BALKENHOL, ROBERT F.		BARTMAN, J. S.	
BABCOCK, CHARLES D., JR.		Obituary0	128	Catalytic-oxidation system for removing	
Buckling of cylindrical shells, The effect		BALL, D. G.		SO: from flue gas, The (A)Mr	71
of general imperfections on the (A)O	81	Pneumatic backfilling (A)D	57	BARTOLINA, EDWARD A.	
BABECKI, ALFRED J.		BALL, PETER J.		Elected ASME FellowAp	98
				BARTOLOMEO, BLASE J.	
Corrosion failures of spacecraft hardware (A)	70	Appointed market manager, heating and air conditioning products, at Dunham-		ObituaryD	100
BABEL, H. W.	10	Bush, West Hartford, ConnAg	104		
Biaxial fracture criterion for porous			-04	BARTON, J. R.	
	71	BALOGH, S. E.		Magnetic perturbation inspection to im-	
BABIC, GEORGE M.	71	Shock load protection through energy		prove reliability of high strength stee	
	En	absorption and dissipation methods, De-	72	components (A)	, 06
Engine vane control (A)Jl	59	sign principles for (A)S	12	BASCOM, C. W.	
BACHMAN, H. E.		BALTZLY, CLIFFORD C.		Small submersible support systems (A)	
Fuel additives for the suppression of		ObituaryJa	102		59
diesel exhaust odor and smoke		Bamberger, E. N.		Basham, D. V.	
Part I: Proposed mechanism for smoke suppression (A)Ap	50	Effect of three advanced lubricants on		Optimum filtration level, Determining the	
Part II: Field trials (A)Ap	57	high-temperature bearing life (A)O		(A)	72
BACHOFER, J. L. C., JR.	٠.	BAMMERT, K.		BASIULIS, A.	
Catalytic-oxidation system for removing		Nuclear power plants with high tempera-		Heat pipe design for electron tube cooling	
SO, from flue gas, The (A)Mr	71	ture reactor and helium turbine (A)Jl		(A)	
BACK, L. H.		BANKSTON, C. A.		Bass, C. D.	
Laminar, transition, and turbulent bound-		Numerical predictions for circular tube		Fatigue behavior of titanium casting	
ary-layer heat-transfer measurements		laminarization by heating (A)N		(A)J	
with wall cooling in turbulent airflow		Transition from turbulent to laminar gas	01		. 02
through a tube (A)N	69	flow in heated pipe, The (A)N		BATES, L.	
Laminarization of a turbulent boundary	30		00	Screw hopper dischargers, Entrainmen	
layer in nozzle flow — boundary layer		BARBATELLI, ETTORE		patterns of (A)Ji	42
and heat transfer measurements with		Named president of American Appraisal		BATESON, NORMAN E.	
wall cooling (A)N	67	Co., Milwaukee, WisAp	97	Elected ASME Fellow	1 120
BACKER, WILLIAM R.		BARCLAY, W. J.		Progress in railway mechanical engineer	
Appointed manager of research and engi-		Design of a shuttle accelerometer (A)S	76	ing, 1967-1968 (A)	
neering, machine tool division, Norton		BARINEK, R.		BATTERIES	
Co., Worcester, MassJe	99	Applying mathematical analysis tech-		High-energy, high-power battery	47
BACKFILLING		niques to solve engineering problems		"Throwaway" zinc-air battery	
	57	(A)S		Zinc-air batteryJ	
Pneumatic backfilling (A)	91				

BAUER, D. C.		Disposal of metal bearing wastes — treatment alone is not enough (A)Je	60	BECKMAN, D. L. Thoracic force-deflection studies in pri-	
Integrity of irradiated fuel shipping con- tainers subject to hypothetical fire acci-		Dynamic-reservoir lubricating deviceF	45	mates (A)S	78
dent (A)Ap	62	Effect of oil supply on cage and roller		BECKWITH, BERNARD L.	
BAUER, E. R., JR. Alkalized alumina system for SO, re-		motion in a lubricated roller bearing, The (A)O	83	ObituaryAp BEDENIG, D.	102
moval, The: design and operation of a continuous pilot plant (A)F	60	Effect of three advanced lubricants on high-temperature bearing life (A)O	87	Movement of fuel elements in the core of a pebble bed reactor, Investigation	
BAUER. HARRY J.	00	Effects of component geometry and sur- face texture on bearing performance		on the (A)Ja	42
ObituaryD	100	(A)S	70	BEEKEN, B. B.	
BAUGHMAN, JOHN L. ObituaryAp	102	Effects of forced-feed lubrication on per- formance characteristics of full finite		Coanda curved wall attachment device, A theoretical and experimental study of	
BAUMAN, WALLACE H.		journal bearings, The (A)D	61	a (A)Mr	62
ObituaryMy	154	Elastic support for a large roller bearing,		BEEKMAN, MYRON C. On leave of absence from Detroit Edison	
BAUMANIS, A. M.		Design and load rating analysis of the	85	Co. to work for Power Reactor De-	
Bending-bending mode of a rotating tapered-twisted turbomachine blade in-		Elastohydrodynamic lubrication of roller	07	velopment Co., Detroit, MichF	85
cluding rotatory inertia and shear		bearings (A)	65 46	BEER, F. P. Response of a structure moving through	
deformation (A)Ag Bending-torsion mode of a rotating	67	Fretting corrosion of unlubricated instru-	-	a random load field, On the (A)Ag	64
tapered-twisted turbomachine blade (A)		ment ball bearings in a controlled en- vironment (A)	84	BEER. WILLIAM B.	
P	58	Friction-induced heating in axially loaded		Appointed chief research and development engineer for Eastern Construction Di-	
BAUMANN, HANS D.		ball bearings (A)	86 55	vision, Dravo Corp., Pittsburgh, PaS	113
Appointed vice - president, engineering, newly formed Masoneilan International,		Gas-bearing behaviorS Gas bearings for small high-performance	00	BEERS, R. V.	
	103	aircraft gas turbines, Feasibility of (A)	00	Receives ASME 55-year membership certificateN	108
BAUMEISTER, K. J.		Gyroscope bearing cross-torque (A)D	68 65	BEETLE. GEORGE R.	200
Hyperbolic heat-conduction equation — a solution for the semi-infinite body		Helical-grooved journal bearing operated		Protecting the public (C)S	83
problem (A)	87	in turbulent regime (A)D	61	BEGUN, R. A.	
BAUSCHINGER EFFECT		High-speed rotors supported by air-lubri- cated foil bearings, An experimental		Electric-hydraulic control system for underwater Christmas trees (A)N	60
Effect of state-of-stress and yield crite-	79	study of -		BEITLER, S. R.	
rion of the Bauschinger effect (A)Mr Influence of Bauschinger effect on re-	72	Part 1: Rotation in pressurized and self-acting foil bearings (A)D	63	Present state of the art of flow meas-	
verse yielding in thick-walled cylinders	40	Part 2: Response to impact and to	00	surement in the power industry (A)	107
(A)D	60	periodic excitation (A)D	60 51	BELGIUM	
Baxi, C. B. Effect of vibration on heat transfer from		High-temperature bearing lubricantsMr Hybrid boost bearing, The — a method of	91	Quadri-current locomotiveS	64
spheres (A)My	94	obtaining long life in rolling contact		BELL, B. A. Gas turbines: a modern approach to in-	
BAZAJ. D. K.		bearing applications (A)D Influence of flexibly mounted rolling ele-	64	dustrial power plant expansions (A)	
Stress concentration factors in filleted		ment bearings on rotor response		JI	62
and grooved shafts subjected to tor- sion (A)	74	Part 1 — Linear analysis (A)0	83	BELL, J. C. Simulation of ball-bearing lubrication	
BAZERGUI, A.		Influence of structural support upon roll- ing element bearing performance, A		with a rolling-disk apparatus (A)O	84
Effect of mean stress and of mean strain		general method for predicting the (A)	0.4	BELL, N. R.	
in low-cycle fatigue of A-517 and A-201 steels (A)Ag	71	Load ratings and fatigue life prediction	84	Fluidic realization of threshold logic (A)	er
BEACHLEY, N. H.		for ball and roller bearings (A)0	85	Processor C. Jo	69
Piston gasifier using computer cycle		Lubrication symposium (1969) stresses "ball and roller bearings"S	104	Bell, Vincent G., Jr. Appointed president and chief operating	
. simulation, A design study of a (A)	57	Mass producing self-acting gas bearings	104	officer of Safeguard Industries, Inc.,	
BEAMS	0.	for gyrosS	32	Lansdale, PaMy	151
Coming: super-refined steels and alloys		Maximum principle approach to the opti- mum one-dimensional journal bearing,		Belluomini, J. Reactor arrangement for a piped liquid	
Ag Ag	44	The (A)	63	metal-cooled fast breeder reactor (A)	
Generation of crack propagation data on notched rotating beam specimens by		Nonmetallic bearing materials (A)S Optimum stiffness of externally pres-	68	Ар	64
means of an interrupted stressing tech-		surized thrust bearings in turbulent		BELTRAN, ADRIAN M.	
nique (A)F Impulsively loaded elastic-plastic beams,	57	Pivoted plane pad bearings: a variational	62	Hot-corrosion-resistant alloys for marine applications, Progress in the develop-	
Approximate solutions for (A)Je	66	solution (A)D	64	ment of (A)Jl	
Laser lab for leaseF Resonant beam tuned damping device, A	44	Quality assurance requirements for dry-		Вегутеснко, Т.	
(A)F	59	lubricated ball bearings (A)	61	Limit analysis of plates, Numerical meth- ods for the (A)Je	
3-beam technique	62	(A)	84	BEMILLER, CLIFFORD C.	
Timoshenko beam with a moving load, The (A)Je	65	Roller bearing adapter mountings for railroad cars (A)F	53	Setting and grouting large compressor	
Use of tapered double-cantilever-beam		Rolling bearing endurance testers, De-		units, Advances in (A)S	75
specimens for fatigue crack growth studies (A)Ag	71	sign of (A)S Simulation of ball-bearing lubrication	74	Bender, D. J. Turbulent velocity distribution in a rod	
Vibration and dynamic instability of a		with a rolling-disk apparatus (A)0	84	bundle (A)My	
beam-plate in a transverse magnetic field (A)O		Skidding in lightly loaded high-speed	9.0	BENDER, M.	
BEAN, NEVIN L.	80	ball thrust bearings (A)O Steady-state experiments on rotating ex-	86	Engineering practice for prestressed con-	
ObituaryS	116	ternally pressurized air - lubricated	1	crete structures in nuclear contain- ment applications (A)	
BEAN, RICHARD L.		journal bearings (A)	61	BENDING	
ObituaryD	100	ious lubricating systems, High-speed		Bending-torsion mode of a rotating	
BEARD, CHESTER S. Elected a district vice-president, Instru-		performance of (A)	83	tapered-twisted turbomachine blade (A	
ment Society of AmericaO		bearings (A)D	61	BENDIXSEN. C. L.	
BEARDSLEY, EDWARD G.		Zero-load stability of rotating externally		Nonmechanical solids flow control de	
Elected ASME FellowMr	102	pressurized gas-lubricated journal bear- ings (A)	60	vice in the waste calcining facility Experience with (A)	
BEARINGS		BEAUCHAMP-NOBBS, E.		BENEDICT, GEORGE H.	
Axial load-carrying capacity of radial cylindrical roller bearings, The (A)O		Naval Ship Research and Development		ObituaryM	r 105
Composite materials development for		Center's ocean pressure laboratory, The		BENNETT, G. F.	
cryogenic bearing retainers (A)Ap Controlling the film thickness in self-		(A)F	55	Cost of industrial and municipal wast	
acting foil bearings, On (A)	62	BEAUDROT, C. B.		(A)	
Development of a pneumatic sensor for measuring the torque of instrument		4-bar linkages adjustable for several ap- proximate straight-line motions of a		BENNETT, IVAN L., JR.	
ball bearings (A)0		coupler point, Synthesis of (A)Ja		Engineer-physician cooperationA	p 18
Development of grease-lubricated tapered		Beck, George D.		Bennett, J. E.	
roller bearings for high-speed rail transportation (A)		ObituaryN	110	Low sensitivity sample-data control systems, Design of (A)	

Benson, G. M.		BICKERMAN, J. J.		Dynamic mechanical properties of human	_
Application of the piezoelectric effect		Thermodynamics, adhesion, and sliding		brain tissue (A)	77
for energy converters of the artificial heart program (A)Ap	EA	friction (A)D	64	Dynamic properties of the human leg, Experimental and analytic study of	
BENSON, JAMES W. L.	54	BIENIECKI, H. S.		(A)S	78
ObituaryMy	154	Effect of a central circular hole on funda- mental plate frequency (A)Ag	63	Dynamic response of pulmonary airways	
BENTWICH, M.		BIENSTOCK, D.	-	to imposed pressure oscillations (A)	67
Two-phase eccentric interface laminar		Operating coal-fired, open-cycle MHD		Electrohydraulic power systems for use in	
pipeline flow (A)0	74	systems at low air/fuel ratios (A)My	105	artificial heart and circulatory assist	
BENTZ, CHARLES E.		BIERER, BION B.		devices, Development of (A)Ap	55
Controlling future jet enginesF	28	Computer scheduling and simulation sys- tem (A)Ag	73	Energy transmission and energy conver- sion system for artificial heart assist	
BERANEK, L. L.		BIEWER, F. N.	4.0	devices, An (A)My	106
Criteria for evaluating your noise prob- lems (A)S	72	Named president of Offshore Technology		Engineer-physician cooperationAp	18
BERG, EUGENE P.		Corp., San Diego, CalifAg	104	Engineering problem of ski safety, The	75
President and chairman of board of Bucy-		BIFURCATION		(A)	**
rus-Erie Co., South Milwaukee, Wis.,		Continuation of Newton's method through		systems engineering (A)Je	59
named president of a subsidiary of the		bifurcation points (A)N	75	Force distribution on lower partial den-	
firm, Atlas Chain and Precision Ag	103	BIGELOW, CLIFFORD G.		tures with symmetric saddles, Theoreti-	77
BERGER, MORTON R.		Appointed assistant to the president of Dean Products, Inc., Brooklyn, N.YF	85	cal analysis of (A)	
Appointed vice-president of Pope, Evans and Robbins International, Ltd., Dja-		ObituaryN		heart, Studies on a (A)Ap	54
karta, Indonesia0	126	BILES, J. E.		Hazards of air pollution, The - fact or	
BERGLES, A. E.		Southland Paper's combined cycle power		fiction?	37
Combined free and forced convection for		plant (A)Jl	64	"Nonpersonal" air pollution (C)N Head trauma — a parametric dynamic	•
fully developed laminar flow in hori-		BILLINGS, DAVID P.		study (A)S	75
zontal tubes, Analysis of (A)N	71	Appointed head of new department for		Heartening prospectsN	41
Heat transfer and pressure drop in tape- generated swirl flow of single-phase		design and fabrication of heat ex-		Human body nonlinearity and mechanical	77
water (A)My	99	changers at Conesco Div. of Whittaker Corp., San Leandro, CalifF	85	impedance analyses (A)	
BERGMAN, PAUL A.	50	BILLINGTON, I. J.	30	sign of wet submersibles, Some (A)	
Hot-corrosion-resistant alloys for marine		Hydrostatic seal, The spring supported			60
applications, Progress in the develop-		(A)Ap	52	Hurdle barrier to artificial heartAp	41
ment of (A)J1	61	BINDSEIL, LAWRENCE J.		Hypo-hyperbaric chambers for medical centers, The design of (A)S	74
BERKMAN, FRANK		Promoted to manager of commercial		ID card based on hand geometryAg	5
Complete response of distributed sys-		development, Lord Manufacturing Co.,		Implantable artificial heart, AnS	20
tems controlled by a finite number of	48	Erie, PaD	95	Implantable, Rankine-cycle circulatory	
linear feedback loops (A)Ag	67	BINNEY, H. A. R.		support system, Design of an (A)Ap Infants and children in the adult world	54
BERMAN, I.		Metrication for the United States How Britain is doing itMy	16	of automobile safety design: pediatric	
Distributed loads on long cylinders, Solu- tions for (A)	67		10	and anatomical considerations for de-	
BERNACHE, P. L.	01	Bins		sign of child restraints (A)S	71
Flow of dry bulk solids on bin walls (A)		Air pressure in the bulk of granular solid discharged from a bin (A)Ja	44	Intact skin transformer for artificial	10
Ja	44	Arches in bins, Theory of the formation		hearts (A)	2
BERNSTEIN, R. H.		of (A)Ja	42	Linearized wave propagation models for	
"Mechanical Engineering" format		Bin loads, On the theory of (A)Ja	43	arterial blood flow analysis, Compari-	
Pizzazz? (C)Jl	71	Effect of initial pressures on flowability of bins (A)Ja	43	son of (A)	7
BERNSTEIN, RALPH H.		Flow of dry bulk solids on bin walls (A)		Literature related to problems of gas em- bolism in human body, Survey of (A)	
Joins Walden Research Corp., Cambridge,		Ja	49	bonsin in numan body, burvey of (4)	7
Mass., as principal engineer	126	Flow patterns of granular materials in	48	Mechanical heart assists, Development of	1
BERT, C. W.		flatbottom bins (A)Ja	45	(A)Mr	6
Ductile creep rupture of shells with strain hardening and time-dependent		BIOCHEMISTRY Carbon as human implant materialN	47	NAE 'biomedical' report stresses coopera- tion	7
loading (A)Mr	71		41	National biomedical conference urges	
Nonlinear vibrations of a beam with		Carbon as human implant materialN	47	consumer protectionD	7
pinned ends (A)Ag	66	Countermeasures to dangerous sharks		New breed, A: the engineer-managerD Engineer-manager in the nuclear age,	1
BERTHIAUME, P. P.		(A)Jl		The (A)Ap	5
Dynamic measurement of absolute track		Spaghetti-flavored bacteria for Martian		New phone for deaf and blindD	3
properties (A)Ag	72	Ultraviolet sterilization of water and	84	No bones about it	4
BERTHOLF, L. D.		its relation to maintaining aq atic or-		Peristaltic transport (A)Je	6
Axisymmetric elastic-plastic wave prop- agation in 6061-T6 aluminum bars of		ganism (A)Je	59	Power transfer device for mechanical	
finite length (A)N	75	BIOMECHANICS AND HUMAN FACTORS		hearts, A (A)Ap	5
BESANT, R. W.		Active vibration isolation of human sub-		Precursor cerebral circulation models	
Density effects on fluidic feedback oscil-		jects from severe dynamic environ-	er	(A)S	7
lators (A)0	78	ments (A)Ag Application of the piezoelectric effect for	65	Reject heat and radiation from implanted	
Bessemers		energy converters of the artificial heart		radioisotope sources, Studies of (A)	10
Bessemers, Last of theJa	33	program (A)Ap		Rheological properties of canine anterior	
Besser, R. I.		Axisymmetric response of a fluid-filled		cruciate ligaments (A)S	7
New concepts of split-spool valving (A)	80	spherical shell to a local radial impulse — a model for head injury (A)S		Salt effects in mucin lubrication (A)	
Passavar A B	72	Behavior of in vivo bone under cyclic			8
Bessonov, A. P. Balancing a planar mechanism with vari-		loading (A)S	78	Scuba diver performance in an open ocean	
able mass links (A)Ja	45	Blood flow in lung alveoli models, Ex-		environment, Measurement of (A)Je	5
BEYER, F. R.		periments on (A)			12
Reactor arrangement for a piped liquid		Breathing apparatus for diving to great		Spaghetti-flavored bacteria for Martian tripMy	p
metal-cooled fast breeder reactor (A)		depths, Design of (A)S	69	Speed hearing	0
Ар	64	Carbon as human implant materialN		Stirling engine module to power circula-	0
BEZAKEIN, M. J.		Charting the snail's nerve routesAp Coming: a new breed of engineer (Ed)		tory assist devices, A (A)Ap	5
Fan/compressor noise reduction (A) Jl	60	······································	13	Stresses in orthopedic walking casts (A)	
BHATTACHARYYA, A.		Compressed air in surgery and patient		Š	7
Tool wear, Analysis of		care, Application of (A)	79	Thick-walled viscoelastic model for the	
Part 1: Theoretical models of flank wear (A)My	101	Computerized biomechanical model, A — development of and use in studying		mechanics of arteries (A)S	7
Bibbo, D. N.	201	gross body actions (A)	77	Thoracic force-deflection studies in pri-	
Specification and selection of mechanical		DIVERCON 1: a diver construction ex-		mates (A)	1
aeration equipment (A)S	80	periment, development problems and	20	ment system, An (A)Je	E
BICHARA, R. T.		Dynamic flow characteristics of prosthet-	58	Viscoelastic properties of scalp, brain,	-
Vortex amplifier, Analysis and modeling		ic heart valves, A method for analyz-		and dura, Some (A)S	7
of the (A)0	78	ing the (A)Mr	66	Walking machineAg	5

BIOMECHANICS AND HUMAN FACTORS		BLAIR, J. M.		um, The influence of nuclear radiation	
(Continued)		Elastic deformation of a circular rod of finite length for an axially symmetric		on (A)Je	61
Waste heat dissipation from artificial		end loading, The (A)	80	Recent experience with ash deposits in	***
hearts — engineering constraints (A)	105	BLAKE, JOEL W.		refuse-fired boilers (A)My Record-sized shop-assembled boilerN	105
"Weightless" in inner spaceJe	47	Elected ASME FellowF	86	Transition from film to nucleate boiling	-
BIOSPHERE		Retained as sales consultant for Chase	00	in vertical forced flow (A)N	68
Bruised biosphereN	53	Industrial Sales Co., Tulsa, OklaJa	99	Utilities: scheduling maintenanceJa	20
BIOTECHNOLOGY	84	BLAKESLEE, HOWARD R.	110	Void fractions in subcooled flow boiling (A)N	69
Aquatic research	67	ObituaryN	110	BOLT, JAY A.	-
Bird, J. O.		BLECHINGER, C. J. Estimating the combined performance of		Elected ASME FellowJl	120
Nonlinear viscoelastic solid in uniaxial		a turbine and exhaust diffuser, A		Востя	
tension, An experimental study of a	70	method for (A)My	103	Boydbolt simple-release fastenerMy	87
(A)N	73	BLEEDING		Tightening torque versus bolt tension re-	70
Biricikoglu, Vahram Advanced to assistant professor of me-		Fluidic compressor bleed control, A (A)		Bolz, Roger W.	
chanics, Lehigh University, Bethlehem,		J	61	Elected ASME FellowJe	102
PaJe	100	BLOOD. See PHYSIOLOGY		Technical innovation - key to manufac-	
Biron, A.		BLOOD, L. J.		turing successJl	19
Effect of creep in low-cycle fatigue of pressure vessels steel (A)	71	Promoted to manager of digital sales		Bonding materials — adhesive bonding	
Effect of mean stress and of mean strain	**	application engineering, Foxboro Co., Foxboro, MassAg	103	metals (A)S	70
in low-cycle fatigue of A-517 and A-201		BLOWDOWN		Bonding materials - diffusion bonding	
steels (A)Ag	71	Liquid/vapor action in a vessel during		(A)	71
Візнор, Е. Н.		blowdown (A)Ap	62	Bonding materials — explosive bonding (A)S	70
Free convective flow patterns in cylindri-		Prediction of blowdown thrust and jet	68	Development of polybenzimidazole bonded	
cal annuli (A))My	94	forces (A)N	68	solid-film lubricants (A)D	65
BISHOP, J. W.		BLOWERS	59	Diffusion bonding Ti-6Al-4V for jet	
Direct contact heat transferring fluidized bed boiler, Status of the (A)F	60	Fiber glass combustion-air blowersS	55	engine applications (A)	67 53
BISSON, EDMOND E.	00	BLUM, H. A. Subject classification bibliography for		"Trans-Ject" combination bondAg	45
Receives NASA medal for exceptional		thermal contact resistance studies (A)		Wear equation for bonded solid lubricant	
scientific achievementMy	151		97	films, A: estimating film wear life (A)	84
Biswas, B. K.		BLUM, HAROLD A.		Bonesho, James A.	04
Heat value of refuse (C)Ap	68	Appointed chairman of aerospace/me-		ObituaryMr	105
Bjorno, L.		chanical engineering department, South- ern Methodist University Institute of		Boness, R. J.	-
Measured pressure waves in water arising		Technology, Dallas, TexJe	100	Effect of oil supply on cage and roller	
from electrical discharges and detona- tion of small amounts of chemical ex-		BOAK, THOMAS I. S.		motion in a lubricated roller bearing,	00
plosives, A comparison between (A)		ObituaryMy	154	The (A)	83
J	69	BOBER, WILLIAM		Dynamics of continuous multimass rotor	
BLACK, HENRY MONTGOMERY		Pressure field in a cavitating flow, An		systems (A)Ag	67
ASME vice-president of education and		analytical investigation on the (A)O	74	BOOK REVIEWS. See also LITERATURE	
policy board chairman (1970-1972)N		BOCK, EDWARD J.		Direct energy conversion for the future	
Elected ASME FellowS	115	Elected member of Civic Progress, Inc.,	100	Direct Energy Conversion (BR)Ja	49
BLACK, J. I.		St. Louis, MoJe	100	Four books on waste and pollution Air Pollution — 2nd edition (BR)	
Fluidic turbine temperature sensors in gas turbine engines, Feasibility study		Bodzin, J. J.		Vol. I - Air Pollution and Its	
of (A)	61	Mitigating hydrogen damage and liquid phase corrosion in an electrical utility		Effects	
BLACKKETTER, D. O.		steam generator, Case study in (A)Ag	71	Vol. II — Analysis, Monitoring, and	
Contact stress between two-dimensional		BOEING 747		Surveying	10
finite elastic bodies (A)N	74	Engine inlet on the 747, The (A)Jl	64	and Their ControlJl	74
BLADES, See also TRACING MACHINES		Boers, B. L.		Industrial Waste Disposal (BR)Jl	73
Advanced concepts to increase turbine	70	Parallel-flow-induced vibration of a cy-		Metal-forming technology Mechanische Umformtechnik (BR)O	95
Bending-torsion mode of a rotating	58	lindrical rod (A)Ap	64	New look at incineration, A	00
tapered-twisted turbomachine blade (A)		BOGDAN, R. C.		Principles and Practices of	
P	58	Complex harmonic analysis of plane		Incineration (BR)D	67
Calculating the head developed by an im-		mechanisms. Programming on digital computers and experimental examples		BOOKER, J. F.	
peller with a finite number of blades, Approximate method for (A)	72	(A) Ja	45	Dynamically loaded journal bearings:	
Correlations of turbine blade total-pres-		Bogy, D. B.		maximum film pressure (A)Ap Rigid-body rotor dynamics: dynamic un-	
sure-loss coefficients derived from		Elastic-plastic plane-strain solutions with		balance and lubricant temperature	
achievable stage efficiency data (A)	58	separable stress fields (A)N	75	changes (A)	65
Determining the performance of certain	00	Bohn, E.		BOOKS. See Engineering Societies	
turbine stator blades from total pres-		Nuclear power plants with high tempera- ture reactor and helium turbine (A)		LIBRARY; LITERATURE	
sure surveys, Some measurement prob-		,	64	Boos, Jack	
lems encountered when (A)Jl Discrete frequency noise generation from		BOILERS AND BOILING		Mass producing self-acting gas bearings	
an axial flow fan blade row (A)0		Direct contact heat transferring fluidized		for gyrosS	32
Effects of transpiration cooling on tur-		bed boiler, Status of the (A)F	60	BOOSTERS	
bine stator blade aerodynamics, Ex-		Effect of nucleate boiling on the operation	87	Hybrid boost bearing, The — a method of obtaining long life in rolling con-	
perimental investigation of the (A)Ja Flexing mower bladeJa		of low temperature heat pipes (A)O Experimental investigation of heat trans-	01	tact bearing applications (A)D	64
Flow through cascades of slotted com-		fer in boiling dissociative liquid (A)N	67	Supersonic axial compressor boost stages	
pressor blades (A)		Gas turbine heat recovery boiler thermo-		for small gas turbines, The develop-	
Gas turbine blade materials after a long term of service, Metallurgical studies		dynamics, economics and evaluation (A)Ag	68	ment of (A)Jl	66
on (A)		Hydrodynamic character of burnout in	30	BOOTHE, W. A. Hydraulic fluidies (A)Mr	
Gas turbine blade vibration, Experimental		subcooled liquid boiling in channels, On		BOOTHROYD, R. G.	63
investigation of — a review (A)Ag		(A)	70	Gas-borne flowing particulate suspen-	
New fan reduces turbofan engine weight		Improved boiling heat transfer with in- duced vapor bubble mixing (A)Je	61	sions, Similarity in (A)Ja	
Practical holographic mode shapes on		Incipient and nucleate boiling of liquid	01	BOPPEL, HENRY L.	-
turbine blades (A)Ag	64	hydrogen (A)Je	61	Named an Automation Group manager	
Turbine blade cooling, Some aerodynamic		Induced convection effect upon the peak-	70	for Bendix CorpAp	97
Velocities and streamlines on a blade-to-		boiling heat flux, An (A)N Inlet effects on boiling and near critical	72	Borazon	
blade surface of a turbomachine, Pro-		hydrogen heat transfer (A)N	65	Precision grind0	65
grams for computation of (A)J		Marine boilersAg	57	Bores and Boring	
Vibration amplitudes of compressor blades resulting from scatter in blade		New ignition burnerJe Nucleate boiling with liquid nitrogen, The		Prevention of chatter vibration in boring operations, Some considerations on	
natural frequencies (A)F		inception of (A)Je		(A)My	100

Bores and Boring (Continued)		research, Philadelphia Electric Co., Phil-		Brittle rock failure under triaxial stress	
Traveling loads in a cylindrical bore,		adelphia, PaJe	100	(A)Je	68
Response of an infinite elastic medium		BOYLE, WILLIAM M.		Strengthening glass and glass-ceramics	
to (A)0	83	Proprietary plant protection systems (A)		S	26
Borgese, S.		Ag	73	BRITTON, J. G.	
Growth mechanism of lenticular carbides		BRADEN, HERBERT H.		Freight car cushioning, The development	
in cyclically stressed 52100 steel, A		Appointed manager of special products at		of concepts in (A)F	53
study of the (A)0	85	Schutte and Koerting Co., Cornwells		Broeker, Frederick G.	
Born, J. E.		Heights, PaD	95		154
Giant presses for curing giant tires (A)		Bradley, C. D.		Broer, William	
Ар	65	New concepts in overland mobility (A)		Promoted to project manager for Amer-	
BORRIES, FREDERICK F.		S	67	The state of the s	114
ObituaryJe	103	BRADY, W. C.		Broersma, G.	
Boshuizen, C.		Large diesel engine, The - its role in		Pneumatic transport of fine granular	
		automated pipelines (A)S	75	material (A)Ja	44
40-in. stopple equipment for emergency repair of pipelines (A)N	62	Braganza, Berard J.		Brogan, Thomas R.	
	100	Appointed engineering manager of Torin		MHD power generation: current status	
BOSTWICK, THOMAS W.		Corp.'s air impeller div., Torrington,		А	18
Elected ASME FellowF	86	Conn.	107	Report by MHD subcommittee of	105
BOTANY		Bragdon, George D.			100
Sea GulliverMy	123	ObituaryN	110	MHD power (C)O BROWER, JAMES	90
BOUNDARY LAYERS		BRAIN		ObituaryMy	154
Analyzing the turbulent boundary layer		Electronic "gray matter"S	56	Brown, B. F.	104
with arbitrary pressure gradient, A		BRAKES	40	Interpreting laboratory stress-corrosion	
new integral method for (A)Je	63	Brake systems researchAg		cracking data in materials selection	
Boundary-layer velocity distribution in	70	Braking via controlled "slip"		(A)Ag	69
turbulent swirling pipe flow, The (A)O	72	engagement, The interfacial load dis-		Brown, Carl D.	
Bounding principle in the theory of work- hardening plasticity, A (A)	81	tribution and total transmitted torque		ObituaryD	100
Effect of uniform injection on heat trans-	01	of (A)Mr	70	Brown, D. D.	200
fer in the constant property turbulent		Performance of freight car brake regu-		Inlet effects on boiling and near critical	
boundary layer (A)Je	62	lators during static and dynamic condi-		hydrogen heat transfer (A)N	65
Effects of curvature on laminar bound-		tions (A)F	53	Brown, F. T.	-
ary layers in sink-type flows (A)Je	63	Removing the squeal from the wheelAp	41	Characteristics with application to fluid	
Flow and heat transfer in a laminarizing		Bramer, H. C.		lines with frequency dependent wall	
turbulent boundary layer (A)N	68	Value of water in industry, The (A)S	79	shear and heat transfer, A quasi method	
Heat transfer to the highly accelerated		Brass		of (A)Ap	61
turbulent boundary layer with and		Widening design and application criteria		Small-amplitude frequency behavior of	
without mass addition (A)N Initial slope of elastic-plastic boundaries	67	for brass forgings (A)S	69	fluid lines with turbulent flow (A)O	76
in combined longitudinal and torsional		Brass, E. A.		Brown, L. R.	
wave propagation, On the (A) O	80	Mechanical design of a 10-Kw Feher cy-		High temperature wastewater treatment	
Laminar, transition, and turbulent bound-	00	cle turbo-alternator, The (A)J	68	process, A (A)Je	60
ary-layer heat-transfer measurements		Brassert, W. L.		Brown, R. N.	
with wall cooling in turbulent airflow		Turbomechanical transmissions for pro-		Analog simulation of a bilinear hysteretic	
through a tube (A)N	69	pulsion steering of track-laying ve-		system undergoing random vibration	
Laminarization of a turbulent boundary		hicles (A)	63	(A)	62
layer in nozzle flow — boundary layer		BRAYTON CYCLE		Brown, R. T.	
and heat transfer measurements with		Closed Brayton cycle system, An analog		Application of primary sealing criteria to	
wall cooling (A)N	67	computer simulation of a (A)J	65	a self energized gasket (A)Mr	68
Prediction of turbulent boundary layer		Small closed Brayton cycle turbine-com-		BROWN, ROBERT C.	
growth in adverse pressure gradients,		pressor set for nuclear application, The		ObituaryN	110
A modified entrainment theory for the	no.	redesign and simulated test of a (A)		BROWN, WENDELL S.	
(A)	76		68	ObituaryN	110
ible turbulent boundary layers, An ex-		BRAZIL			
perimental study of the (A)Mr	63	Dream capitalMi		BRUENING, DONALD J.	
Simultaneous lateral skewing in a three-	00	"Power City"I		Appointed sales manager with thermoid	
dimensional turbulent boundary-layer		Power in BrazilN	58	division, H. K. Porter Co., Pittsburgh,	95
flow (A)0	76	BRAZING		PaD	190
Solution of the incompressible turbulent		Superior propane torch	65	Bruff, W.	
boundary - layer equations with heat		Breckenridge, Frank		Powder materials, Some characteristic	
transfer (A)N	68	Named senior vice-president, marketing		qualities of (A)Ja	43
Three-dimensional boundary-layer flow		and planning, for Controls Co. of		BRUGGER, R. D.	
about an ablating slender cone (A)O	76	America, Melrose Park, IllMy	151	Optical sensors (A)S	74
Three-dimensional boundary layers on		BREDIN, HAROLD		BRUNDRETT, E.	
cones at small angles of attack (A)Je		Microfinishing: a precision machine opera		Turning vanes in a square conduit elbow,	
Turbulent natural convection boundary		tion		Performance of (A)	72
layers, An experimental study of (A)	200	Bressler, Marcus N.			
Unatada lanina in anno N		Promoted to manager of engineering a		BRUNELL, K.	
Unsteady laminar incompressible bound-		Lenape Forge Division of Bonney Forge		Forecasting of technology in industry, A	
ary layer flows with cylindrical sym-		and Foundry, Inc., Lenape, PaA		framework for (A)Ap	57
metry, Numerical investigation of (A)	74			BRUNNER, JULES E.	
	14	Bridge inspectionA	75	Appointed director of engineering of Glid-	
BOURDON TUBES				den-Durkee Div., SCM Corp., Cleveland,	-
Bourbon tube test data, Correlation and		Pipeline bridgeI	04	OhioAp	97
analysis of (A)Je	69	BRIEFING THE RECORD. See NEWS		BRUUN-ANDERSEN, ERIK	
BOWEN, PAUL T.		Briggs, E. M.		ObituaryMy	15
Elected an associate of Kent, Cruise &		Southwest Research Institute underwate		BRYERS, R. W.	
Partners, Providence, R.I., and Boston,		engineering laboratory, The (A)l		Recent experience with ash deposits in	
Mass., architectural firm, heading me-		BRIGHTON, JOHN A.		refuse-fired boilers (A)My	100
chanical engineering departmentJ1	119	Flow separation and reattachment in con		BUBAR, HUDSON	
Bowers, J. H.		fined jet mixing (A)		Awarded ASME 50-year membership pin	
Closed power water/oil hydraulic pump-				Awarded ASME 50-year membership pin	
ing (A)N		BRINSON, LEO T.			200
BOWLEY, W. W.		Receives ASME diesel and gas engin		BUBBLES	
Trajectory and spreading of a turbulent		power award of 1969	115	Bubble flow up to the critical pressure	
jet in the presence of a crossflow of		BRISTOW, EARL DE WEESE		(A)0	
arbitrary velocity distribution (A)Jl		Obituary	F 88	Entrainment of water by stream of suc-	
	03	BRITISH STANDARDS INSTITUTION		cessive air bubbles, An investigation of	
BOWMAN, H. F.		Metrication for the United States		the (A)My	
Pool-boiling heat transfer to liquid helium,		How Britain is doing it	y 16	Improved boiling heat transfer with in-	
The influence of nuclear radiation on		Metric — there and here (C)		duced vapor bubble mixing (A)Je	
(A)Je	61	BRITTLENESS		Stability of cylindrical bubbles in a verti-	
BOYER, VINCENT S.		Biaxial fracture criterion for porou		Steam bubble collapse, On some aspects	
Elected vice-president of engineering and		brittle materials, A (A)M		of (A)	
breament or engineering and				\ \ \ \ \ \ \ \	

BUCALO, BENEDICT J.		Hydrodynamic character of burnout in		Texaco to use californium-252	91
Appointed assistant director of power en-		subcooled liquid boiling in channels, On		CALIMBAS, A. T.	
gineering division, Burns and Roe, Inc., Oradell, N.J.	108	(A)N	70	Avionic heat pipe, An (A)N	66
Buchberg, H.	100	Burns, S. S.		CALLAGHAN, J. C.	
Cellular solar collectors, Design considera-		A-C static variable-frequence speed con-		Pressure signal generator for fluidic re-	
tions for (A)Mr	66	trol (A)D	54	search (A)0	79
BUCHER, J. H.		Burns, W. H.		CALORIMETER	
Yielding and flow characteristics of low-		Electrohydraulic power systems for use		Calorimeter apparatus to measure the	
carbon steel between ambient and liquid		in artificial heart and circulatory assist	55	enthalpy difference of heavy water, A (A)0	88
nitrogen temperatures (A)Ag	71	devices, Development of (A)Ap	90	CAME, P. M.	00
BUCHER, PAUL	101	Burns, William J.		Turbine blade cooling, Some aerodynamic	
ObituaryJI	124	Appointed head of new environmental engineering dept. at Long Island Light-		aspects of (A)Jl	60
BUCK, FRANK I.	***	ing, Mineola, N.Y.	126	CAMERON, B. J.	00
ObituaryD	100	BURR. CHARLES D.		Underwater human performance measure-	
BUCK, K. E.	20	Promoted from assistant chief engineer		ment system, An (A)Je	59
Implantable artificial heart, AnS	20	to chief engineer of Hilliard Corp., Oil		CAMETTI, BENJAMIN	
BUCKETS. See also TRACING MACHINES		Purifier Division, Elmira, N.YJa	99	Elected ASME FellowD	97
Diakoptics in the determination of tur- bine bucket frequencies by the use of		Burson, Thomas D.		CAMPBELL, HENRY J.	
perturbations, An application of (A)		Elected vice-president of Hycon Co., Mon-		Named chairman of state legislative com-	
Ag	66	rovia, CalifAg	104	mittee of Consulting Engineers Council	
BUCKLIN, EARL E.		Busa, J. V.		of New York StateAp	98
ObituaryF	88	Unique application of gas turbines in a		CAMPBELL, J. L.	
BUCKLING		coke and coal chemical plant, A (A)	68	Pulsatile flow behavior in elastic systems	
Buckling of a column with random initial		D B. F	68	containing wave reflection sites (A)	
deflections, The (A)0	81	Busby, R. F.		C	04
Buckling of an ellipsoid due to internal	40	Manned submersibles, Design and opera- tional performance of (A)F	55	CAMPBELL, JAMES K.	00
pressure (A)Mr	68	Busch, Charles R.	00	CAMPBELL, W. E.	88
Buckling of cylindrical shells, The effect	81	ObituaryF	88	Receives distinguished service award of	
of general imperfections on the (A)O Buckling problems of axially compressed		BUSH, FLOYD R.	00	1969 from ASME Lubrication Division	
thin cylindrical shells of infinite or fi-		Appointed manager of engineering for			104
nite length, Perturbation solutions for		Prodex Division of Koehring Co., Fords,		CANADA	
the (A)Je	66	N. J	107	Canadian Congress of Applied Mechanics	
Circular ring of arbitrary section, Three-		BUSINESS MACHINES, See MACHINES,		William Prager named honorary chair-	
dimensional deformation and buckling		Business		man0	126
of a (A)Mr	69	BUSINESS WORLD. See also INDUSTRY		Metrication for the United States	
BUCKMANN, P. S.		Teamwork and understanding: keys to		Canadian view, TheMy	19
Wear ring seals for high-speed, high-pres-		national progressAg	14	Metric — there and here (C)Jl	71
sure turbopumps, Evaluation of (A)	53	Byerley, W. M.		CANADIAN STANDARDS ASSOCIATION	
BUDIANSKY, BERNARD	00	Steam generators for nuclear power plants		Metrication for the United States	10
Buckling of a column with random initial		(A)Ap	56	Canadian view, The	19 71
deflections, The (A)O		Byrne, R.			**
BUDNEY, G. S.		Freight car cushioning, The development		CANNON, EDGAR W., JR.	
Sodium-heated steam generator design	,	of concepts in (A)F	53	Joins design group of plant engineering department, Rohm and Haas, Philadel-	
considerations (A)Ap				phia, PaF	85
BUECKNER, H. F.					00
Diakoptics in the determination of tur-		C		CANOVA, F.	
		U		Interaction of compressor-expander turbo- machinery in chemical processes (A)	
bine bucket frequencies by the use of		_			
bine bucket frequencies by the use of perturbations, An application of (A)		Commence			61
		CABLEWAYS		Je	61
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS	66	Cableway operation at Mossyrock Dam	5.7	CANTIERI, WILLIAM F.	61
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid	66	Cableway operation at Mossyrock Dam (A)D	57 56	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) Bulk Materials. See also Solids Air pressure in the bulk of granular solid discharged from a bin (A)Ja	66	Cableway operation at Mossyrock Dam (A)D Nepal aerial tramway (A)D		CANTIERI, WILLIAM F. Elected ASME Fellow	61 98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A) Gravity flows of ideally plastic materials	66	Cableway operation at Mossyrock Dam (A)	56	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44	Cableway operation at Mossyrock Dam (A)	56 68	CANTIERI, WILLIAM F. Elected ASME Fellow	61 98 60
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)Ja Gravity flows of ideally plastic materials through slots (A)Ja Limit plasticity approach to some cases	66 44 44	Cableway operation at Mossyrock Dam (A)	56 68 40	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44	Cableway operation at Mossyrock Dam (A) D D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je	56 68 40 66 53	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)Ja Gravity flows of ideally plastic materials through slots (A)Ja Limit plasticity approach to some cases	66 44 44 44	Cableway operation at Mossyrock Dam (A) D D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Ja Power at -452 F O O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je	56 68 40 66 53 48	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	44 44 44 44	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M.	56 68 40 66 53 48	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	44 44 44 44 44	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	44 44 44 44 1 68	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My	56 68 40 66 53 48	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A). Ja Gravity flows of ideally plastic materials through slots (A). Ja Limit plasticity approach to some cases of flow of bulk solids (A). Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A). Ja BULTZO, CHARLES Steam injection, A source of incremental power (A). JI BUNKER, WILLIAM B. Elected ASME Fellow. My Obituary. Age	44 44 44 44 1 68	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	44 44 44 44 1 68 7 152 1 108	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A). Ja Gravity flows of ideally plastic materials through slots (A). Ja Limit plasticity approach to some cases of flow of bulk solids (A). Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A). Ja BULTZO, CHARLES Steam injection, A source of incremental power (A). JI BUNKER, WILLIAM B. Elected ASME Fellow. My Obituary. Age	44 44 44 44 1 68 7 152 1 108	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	44 44 44 44 1 68 7 152 1 108	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific de-	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 1 68 7 152 7 108	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering manmoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 1 68 1 152 1 108	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A) Gravity flows of ideally plastic materials through slots (A) Limit plasticity approach to some cases of flow of bulk solids (A) Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) BULTZO, CHARLES Steam injection, A source of incremental power (A) BUNKER, WILLIAM B. Elected ASME Fellow Obituary Ag BUNN, EDWARD S. Obituary NO BUOYANCY Laminarization of a turbulent pipe flow by buoyancy forces (A) "Weightless" in inner space Ja	66 44 44 44 44 1 68 1 152 1 108	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) My OPart 2 — Evaluation of specific designs for gas loads (A) O CADZOW. MURRAY Obituary Ja	56 68 40 66 53 48 65	CARBON DIOXIDE CARDANE FERMEN WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 68 7 152 7 108 7 110	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary Ja CAIRNS, J. R.	56 68 40 66 53 48 65 101 74 76 102	CANDERI, WILLIAM F. Elected ASME Fellow	98 60 83 98
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 1 68 7 152 7 108 7 110	Cableway operation at Mossyrock Dam (A)	56 68 40 66 53 48 65 101	CARBON DIOXIDE CARDANE FERMEN WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A) Ja Gravity flows of ideally plastic materials through slots (A) Ja Limit plasticity approach to some cases of flow of bulk solids (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja BULTZO, CHARLES Steam injection, A source of incremental power (A) JI BUNKER, WILLIAM B. Elected ASME Fellow My Obituary Ag BUNY, EDWARD S. Obituary Nobituary	66 44 44 44 44 1 68 7 152 7 108 7 110	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F. O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW. MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My	56 68 40 66 53 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 68 7 152 108 7 110	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering manmoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) MY CADMAN, R. V. Electrodyaamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) Water jet pumps, Optimum design of (A) Water jet pumps, Optimum design of (A)	56 68 40 66 53 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 68 7 152 108 7 110	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A)S Italy-Spain cable Ja Power at -452 F. O Powering mammoth dragline Je Pyrotechnic-actuated cable releaseJe Water drag effects of flow induced cable vibrations (A)	56 68 40 66 53 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A) Ja Gravity flows of ideally plastic materials through slots (A) Ja Limit plasticity approach to some cases of flow of bulk solids (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja BULTZO, CHARLES Steam injection, A source of incremental power (A) JJ BUNKER, WILLIAM B. Elected ASME Fellow My Obituary Ag BUNN, EDWARD S. Obituary NBUOYANCY Laminarization of a turbulent pipe flow by buoyancy forces (A) "Weightless" in inner space JJ BURDI, A. R. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) BURGREEN, D.	66 44 44 44 44 168 152 108 110 766 47	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering manmoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) MY CADMAN, R. V. Electrodyaamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) Water jet pumps, Optimum design of (A) Water jet pumps, Optimum design of (A)	56 68 40 66 653 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 45 168 152 108 110 7 66 47	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F. O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW. MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) CALCATERRA, P. C.	56 68 40 66 53 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 44 168 152 108 110 66 47 66 77 77 77 77 77 77 77	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) MY CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) Lacaterra, P. C. Active vibration isolation of human sub-	56 68 40 66 53 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 44 168 152 108 110 66 47 66 77 77 77 77 77 77 77	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A)	56 68 40 66 53 48 65 101 74 76 102	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A). Ja Gravity flows of idealty plastic materials through slots (A). Ja Limit plasticity approach to some cases of flow of bulk solids (A). Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A). Ja BULTZO, CHARLES Steam injection, A source of incremental power (A). JI BUNKER, WILLIAM B. Elected ASME Fellow. My Obituary. Ag BUNN, EDWARD S. Obituary. NBUOYANCY Laminarization of a turbulent pipe flow by buoyancy forces (A). Now "Weightless" in inner space. Je BURDI, A. R. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A). Structural growth induced by thermal cycling (A). Mithermal ratchet mechanism, The (A).	66 44 44 44 44 48 168 152 108 110 166 47 17 17 17 17 17 17 18 18 18 1	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O CADZOW, MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) My Water jet pumps, Optimum design of (A) Je CALCATERRA, P. C. Active vibration isolation of human subjects from severe dynamic environments (A) Ag CALDWELL, G. L. Flow and heat transfer in a laminarizing	56 68 40 66 53 48 65 101 74 76 102 104 64	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 68
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 48 168 110 110 166 47 17 17 17 17 18 18 18 18 18 1	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F. O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) W CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW. MURRAY Obitury Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) My Water jet pumps, Optimum design of (A) My CALCATERBA, P. C. Active vibration isolation of human subjects from severe dynamic environments (A) Ag CALDWELL, G. L. Flow and heat transfer in a laminarizing turbulent boundary layer (A) N	56 68 40 66 53 48 65 101 74 76 102 104 64	CANDERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 113 70 57 23
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A) Ja Gravity flows of ideally plastic materials through slots (A) Ja Limit plasticity approach to some cases of flow of bulk solids (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja BULTZO, CHARLES Steam injection, A source of incremental power (A) JB BUNKER, WILLIAM B. Elected ASME Fellow My Obituary Ag BUNKER, WILLIAM B. Elected ASME Fellow My Obituary No BUOYANCY Laminarization of a turbulent pipe flow by buoyancy forces (A) No "Weightless" in inner space JB BURDI, A. R. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) SBURGREEN, D. Structural growth induced by thermal cycling (A) Mithermal ratchet mechanism, The (A) MBURKE, CHARLES J. Appointed president of a new company TurbOtech Inc., formed by Ingerspil	66 44 44 44 44 48 48 48 48 48	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) Je CALCATERRA, P. C. Active vibration isolation of human subjects from severe dynamic environments (A) CALDWELL, G. L. Flow and heat transfer in a laminarizing turbulent boundary layer (A) N CALIBRATION	56 68 40 66 53 48 65 101 74 76 102 104 66 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 113 70 57 23
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 44 44 48 152 108 110 7 66 47 7 7 7	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) My Water jet pumps, Optimum design of (A) My CALCATERRA, P. C. Active vibration isolation of human subjects from severe dynamic environments (A) As CALDWELL, G. L. Flow and heat transfer in a laminarizing turbulent boundary layer (A) N CALIBRATION Hot-wire anemometer calibration for	56 68 40 66 53 48 65 101 74 76 102 104 64 65 65 68	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 113 700 577 23 58
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 44 44 48 152 108 110 7 66 47 7 7 7	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F. O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) W CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW. MURRAY Obitury Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) My Water jet pumps, Optimum design of (A) My CALCATERBA, P. C. Active vibration isolation of human subjects from severe dynamic environments (A) A CALDWELL, G. L. Flow and heat transfer in a laminarizing turbulent boundary layer (A) N CALJBRATION Hot-wire anemometer calibration for measurements at very low velocity	56 68 40 66 65 53 48 65 101 74 76 102 104 64 65 65	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 113 70 57 23
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A)	66 44 44 44 44 48 48 48 48 48	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A)	56 68 40 66 53 48 65 101 74 76 102 104 64 65 68	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 113 70 57 23 58 54
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A) Ja Gravity flows of ideally plastic materials through slots (A) Ja Limit plasticity approach to some cases of flow of bulk solids (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja BULTZO, CHARLES Steam injection, A source of incremental power (A) JB BUKER, WILLIAM B. Elected ASME Fellow My Obituary Ag BUNN, EDWARD S. Obituary NB BUOYANCY Laminarization of a turbulent pipe flow by buoyancy forces (A) N "Weightless" in inner space Je BURDI, A. R. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) Structural growth induced by thermal cycling (A) Mithermal ratchet mechanism, The (A) Mithermal	66 44 44 44 44 48 48 48 48 48	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A) S Italy-Spain cable Ja Power at -452 F. O Powering mammoth dragline Je Pyrotechnic-actuated cable release Je Water drag effects of flow induced cable vibrations (A) Mr CADDELL, R. M. Rod-drawing, Optimum die angles and maximum attainable reductions in (A) My CADMAN, R. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) My CADMAN, G. V. Electrodynamic oscillating compressors Part 1 — Design based on linearized loads (A) O Part 2 — Evaluation of specific designs for gas loads (A) O CADZOW, MURRAY Obituary Ja CAIRNS, J. R. Staged jet-pump systems, Optimal design of (A) My Water jet pumps, Optimum design of (A) CALCATERRA, P. C. Active vibration isolation of human subjects from severe dynamic environments (A) Ag CALDWELL, G. L. Flow and heat transfer in a laminarizing turbulent boundary layer (A) CALIBRATION Hot-wire anemometer calibration for measurements at very low velocity (A) Sine bar measures small angles My	56 68 40 66 53 48 65 101 74 76 102 104 64 65 68	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 68 57 23 58 54
perturbations, An application of (A) BULK MATERIALS. See also SOLIDS Air pressure in the bulk of granular solid discharged from a bin (A). Ja Gravity flows of ideally plastic materials through slots (A). Ja Limit plasticity approach to some cases of flow of bulk solids (A). Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A) Ja Stresses in wedges of cohesionless materials formed by free discharge at the apex (A). Ja BULTZO, CHARLES Steam injection, A source of incremental power (A). JB BUNKER, WILLIAM B. Elected ASME Fellow. My Obituary. Ag BUNN, EDWARD S. Obituary. No BUOYANCY Laminarization of a turbulent pipe flow by buoyancy forces (A). No "Weightless" in inner space. JB BURDI, A. R. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A). SBURGREEN, D. Structural growth induced by thermal cycling (A). Thermal ratchet mechanism, The (A). Mithermal ratchet mechanism, The (A). MITHERMS (CHARLES J. Appointed president of a new company TurbOtech Inc., formed by Ingersoll Rand Co., Phillipsburg, N.J., with head quarters in New York, N.Y.	66 44 44 44 44 48 41 68 7152 108 7110 71 72 74 75 76 77 78 79 89 857	Cableway operation at Mossyrock Dam (A) D Nepal aerial tramway (A) D CABLES Flat conductor cable technology (A)	56 68 40 66 53 48 65 101 74 76 102 104 64 65 65 7 88	CANTIERI, WILLIAM F. Elected ASME Fellow	98 60 83 98 85 47 68 68 113 70 57 23 58 54

CARLEY, C. T.		Casings		CHAINS	
Appointed professor and head of me-		Calculation of allowable maximum casing		Wear life expectancy of USA Standard	
chanical engineering dept., Mississippi	107	temperature to prevent tension failures	63	B29.1 roller chain (A)N	64
State University	107	in thermal wells (A)N Casing the Aleutian holeN	43	CHALIFOUX, H. D. Energy transmission and energy conver-	
cal annuli (A)My	94	Cass. R.	-	sion system for artificial heart assist	
CARLISS, O. S.		Dynamic measurement of absolute track		devices, An (A)My	106
Safety aspects in the design of indus-		properties (A)Ag	72	CHALKER, R. G.	
trial trucks (A)Je	68	CASSIDY, PERRY R.	. 00	New breed, A: the engineer-managerD	14
CARLISS, OSWALD S.		ObituaryF	88	Engineer-manager in the nuclear age, The (A)Ap	57
Appointed staff engineer for Materials Handling Equipment Group of Eaton		CASTERLINE. J. Critical heat flux measurements in a 16-		CHAMBERLAIN, JOSEPH R.	
Yale & Towne Inc., with offices at		rod simulation of a BWR fuel assembly		Receives citation from ASME for out-	
firm's Advanced Engineering Center in		(A)My	96	standing service as chairman of Section	
Philadelphia, PaJl	119	CASTS AND CASTINGS		Committee 5, Refrigeration Piping,	
CARLSON, C. W.		Fatigue behavior of titanium castings (A)	62	USASI Committee B31; receives dis- tinguished service award of ASHRAE	
Penetration and mixing of air jets di-		Squeeze castingN	45		101
rected perpendicular to a stream, The	59	Stresses in orthopedic walking casts	-	CHAMBERS	
CARLSON, GUNARD O.		(A)S	77	Hypo-hyperbaric chambers for medical	
ObituaryJl	124	Titanium castings in gas turbine engines, The potential of (A)Jl	62	centers, The design of (A)	74
CARNEGIE, ANDREW		CATALOGS. See LITERATURE	02	Age caronic compastion chamber (A)	68
ObituaryJe	103	CATAPULTS		CHAMBERS, WILLIAM R.	
CARNEY, BERNARD R.		Aircraft steam catapultsMr	42	Obituary0	128
Elected corporate vice-president of Car-		Improved design, An (C)My	111	CHAMPINE, JAMES T.	
borundum Co., Niagara Falls, N.YS	114	Planetary slingshot0	61		105
CARON, ROGER P.		CAUGHEY. T. K.		CHAN, B. K. C. Natural convection in enclosed porous	
Appointed consultant to mechanical engi-		Stability of continuous dynamic systems with parametric excitation (A)	80	media with rectangular boundaries (A)	
neering staff, Arthur D. Little, Inc., Cambridge, Mass	108	CAVICCHI, R. H.	00	N	70
CARR, R. L., JR.	100	Comparison of flexible- and firm-founda-		Chan, J.	
Particle behavior, storage, and flow (A)		tion rotor critical-speed analyses (A)		Calorimeter apparatus to measure the en-	
Ja	43	Ag	67	thalpy difference of heavy water, A	99
CARRAS, A. N.		CAVITIES AND CAVITATION		CHAN, K. S.	-
Closed Brayton cycle system, An analog		Axisymmetric stress field around spher- oidal inclusions and cavities in a trans-		Literature related to problems of gas	
computer simulation of a (A)Jl	65	versely isotropic material (A)Je	68	embolism in human body, Survey of	70
CARRIER. WILLIS H., AWARD		Cavitation at the ends of an elliptic in-		CHANCE, HENRY M., II	79
Award presented by ASHRAE to Richard Barrett for paper co-authored by David		clusion inside a plate under tension (A)		Elected a director of Girard Trust Bank,	
W. LockinD	95	Cavitation research on a centrifugal pump	66	Philadelphia, Pa0	126
CARROLL, PHIL		(A)0	72	CHANG, K. T.	
Made a Fellow of International Academy		Cavitation tests on hydrofoils designed		Elastic-plastic stress distribution in a	-
of ManagementAg	104	for accelerating flow cascade:		compressed ring (A)Mr	12
CARSON, W. L.		Report 4 — Three profiles designed for high head Kaplan turbine (A)F	61	CHANNELS	
Times response of lower pair spatial		Deadly bubbles, The: cavitation to be		Heat pipe channel flow distributions (A)	
mechanisms subjected to general forces (A)	45	studied at new UNDP-Indian laboratory		Hydrodynamic character of burnout in	66
CARSON, WILLIAM H.		Ap	72	subcooled liquid boiling in channels, On	
Obituary0	128	Pressure field in a cavitating flow, An analytical investigation on the (A)O	74	(A)N	70
CARTER, A. F.		Progressive waves moving through a cir-		Impairment of turbulent convection heat transfer at supercritical pressures at	
Correlations of turbine blade total-pres-		cular pipe containing a rotating flow of		forced flow of fluid in the vertical chan-	
sure-loss coefficients derived from		water with an axial cavity (A)0 Progressive waves on swirling cavity flow	73	nels, To the question of the (A)N	65
achievable stage efficiency data (A)F	58	in a circular pipe (A)0	73	Lateral motion of individual particles in	
CARTER. J. W.		Resistance against cavitation erosion of		channel flow — effect of diffusion and interaction forces	
Cushion hitch, The: a vibration-absorber		14 chromium steels (A)D	61	Part 1 - particle behavior as a func-	
for tractor-scrapers (A)Ag	58	Thermodynamic effects in desinent cavita- tion on hemispherical nosed bodies in		tion of systematic motion (A)N	66
CARTER, MALCOLM A. ObituaryN	110	water at temperatures from 80 to 260		Local heat transfer downstream of ab- rupt circular channel expansion (A)N	70
CARTER, T. E.	110	deg F (A)0	74		12
Optimal-suboptimal guidance law for an		CEBECI, T.		CHAO, W. WAI	
undersea vessel, An (A)F		Solution of the incompressible turbulent		Appointed director of administration and marketing planning, Sperry Rand Re-	
CARUTASU, I.		boundary-layer equations with heat	60	search Center, Sudbury, MassD	
Complex harmonic analysis of plane mech-		transfer (A)N	00	CHAPMAN, ALBERT	
anisms, Programming on digital com-		CELLS Bimetallic emf cell for direct energy con-		Elected ASME FellowAp	99
puters and experimental examples (A)		versionAp	39	CHAPMAN, EVERETT	
C W H I	45	Cellular solar collectors, Design considera-	-	ObituaryN	110
CARUTHERS. W. H., JR. Aluminum aspects of cost engineering		tions for (A)Mr	66 41	CHATO, J. C.	
(A)N		Insulating Apollo's fuel cellsAp	41	Performance of a wick-limited heat pipe	
	-	Centrifuge analysis — effects on sedi-		(A)N	00
CARVER, TOM B. Former manager of propulsions and power		mentation coefficients of angular ve-		CHATTER Designing optimum dampers against self-	
systems laboratory for Hughes Aircraft		locity lag, of deviations from Stokes'		excited chatter (A)My	
Co.'s space systems division, El Segun-		law of drag, and of acceleration effects	0.4	CHATTO, HARRY M.	
do, Calif., appointed to new post as		(A)Je	64	ObituaryJe	103
manager of material for space and weapons systems		CERAMICS		CHEMICALS	
the second secon	-10	Strengthening glass and glass-ceramics	26	Measured pressure waves in water aris-	
CASCADES Cavitation tests on hydrofoils designed		CERNIGLIA. ANTHONY T.		ing from electrical discharges and	
for accelerating flow cascade:		Elected a commercial vice-president of		detonation of small amounts of chemical explosives, A comparison between (A)	
Report 4 - Three profiles designed for		M. W. Kellogg Co., New York, N.Y O		explosives, A comparison between (A)	
high head Kaplan turbine (A)F		CERNIGLIA. VINCENT J.		Unique application of gas turbines in a	
Flow through cascades of slotted com- pressor blades (A)		Named general manager, solid waste man-		coke and coal chemical plant, A (A)	
The second secon	30	agement div., Utilities Leasing Corp.,		Ας	68
Casci, C. Dependence of power cycles' performance		Haverford, PaN	108	CHEMICO-BASIC CORP.	. 00
on their location relative to the An-		CERTIFICATES. See HONORS		New controls for SO ₂ Ag	
drews curve, The (A)J		CHAFFIN. D. B. Computerized biomechanical model, A—		CHEMISTRY. See also BIOCHEMISTRY Interaction of compressor-expander tur-	
Cashew		development of and use in studying		bomachinery in chemical processes (A)	
Cash in the cashew	40	gross body actions (A)			

CHEN, C. F.		CHIVERS, T. C.		CLADDING	
New technique for identifying linear		Cavitation research on a centrifugal	20	TAMPA — a computer program for the	
systems, A (A)Ap	59	ритр (А)О	72	analysis of reactor fuel and clad (A)	65
CHEN, F. Y. Synthesizing the four-bar crank-rocker		Steam bubble collapse, On some aspects		CLARK, B. W.	•
mechanism, An analytical method for		of (A)N	73	Electrochemical machining (ECM) of oil	
(A)Ja	46	CHO, SUNG HWAN		field valves (A)N	60
CHEN, P. M.		Melting or freezing of finite slabs (A)	00	CLARK, EDWARD S.	
Direct contact heat transferring fluidized bed boiler, Status of the (A)F	60	CHOAT, ERNEST E.	98	Promoted to engineering manager, air- craft div., Aeroquip Corp., Jackson,	
CHEN, R. Y.	00	Planning, scheduling, and control system		Mich	126
Transition from supersonic to subsonic		for an engineering design group, De-		CLARK, J. A.	
flow at low Reynolds numbers in a tube,		velopment of a (A)Ag	74	High-frequency stress waves propagating	
On (A)	82	CHOKING		in bars and plates, Photoelastic study	as
CHEN, SIMON K.		Choking and shock phenomena in a single- component two-phase flow including		of (A)Je	90
Joins Fairbanks Morse Power Systems Di- vision, Beloit, Wis., as vice-president		vibrational effects (A)N	68	CLARK, J. M., JR. Stratified charge, The third cycle —Mr	29
and general manager of large engine		CHOU, P. C.	•	CLARK, M. E.	
	103	Finite deflections of an elastic circular		Precursor cerebral circulation models (A)	
CHEN, W. T.		plate with a central hole (A)	83		77
Axisymmetric stress field around spher-		CHOU, S. I.		CLARKE, CHARLES V.	
oidal inclusions and cavities in a trans- versely isotropic material (A)Je	68	Bonded elastic mounts under combined		Effective engineering management (A)	mo
CHENEA, PAUL F.	00	loading of shear and normal forces (A)		Cours John S	13
Elected to National Academy of Engineer-		Ар	65	CLARKE, JOHN S. ObituaryN	110
ingS	113	CHOUDHURY, W. U.		CLARKE, T. C.	***
CHENEY, FRANK		Porous fuel elements in nuclear reactors,	65	Development of voluntary controls (A)	
ObituaryF	88	On the use of (A)Ap	00	Je	68
CHENG, H. S.		CHOW, C. Y. Helical-grooved journal bearing operated		CLARKSON, B. L.	
Elastohydrodynamic film thickness in an		in turbulent regime (A)D	61	Reducing the response of integrally stiff-	
elliptical contact, A numerical solution of the (A)	87	CHRISTENSEN, H.	-	ened structures to random pressures,	62
CHENG, K. C.	91	Elastohydrodynamic theory of spherical		Methods of (A)Ag CLAUDSON, T. T.	95
Thermal instability in plane Poiseuille		bodies in normal approach (A)	86	Fracture toughness of irradiated and	
flow (A)	70	CHRISTENSEN, H. D.		unirradiated heavy section pressure ves-	
CHENG. S. C.		Contact stress between two-dimensional		sel material (A)Je	63
Temperature dependent expression for		finite elastic bodies (A)N	74	CLEMENS, ALONZO W.	110
the thermal diffusivity of solids, A		CHRISTIAN, JOHN M.		ObituaryN	110
technique to determine a (A)Je	62	Joins staff of Los Alamos Scientific		CLEMENT, WALTER J.	
CHEPKO, FRANK E.		Laboratory, Los Alamos, N.M., in ex- plosives testing divisionMy	151	ASME	
Designing wire parts for high production			101		
D	25	CHRISTIANSEN, F. H. Energy transmission and energy conver-		CLIFTON, R. J. Combined longitudinal and torsional plas-	
CHERN, JENN-MING		sion system for artificial heart assist		tic wave propagation, Elastic-plastic	
Elastic-plastic, work-hardening arches (A)	82	devices, An (A)My	106	boundaries in (A)Je	
CHERNISH, WILLIAM N.	-	CHRISTOFFERSON, J. B.		CLIMATE MANAGEMENT	
Joins salary and policy administration de-		Nuclear pressure vessels: site assembly	-00	Bruised biosphereN	53
partment of Rohm and Haas Co., Phila-		F	32	CLOCKER, LARRY L.	
delphia, PaS	114	CHRISTOPHER, B. G.		ObituaryAg	108
CHERNJAVSKY, SERGEJ		Airplane jet fuel service-station style (A)	64	CLOSURES	
Menace of the meteor		Сниоміим	0.	Designs for closures and shell jointsJe	24
What was it? (C)Je	72	Resistance against cavitation erosion of		CLOUD, ROBERT L.	
CHESEBROUGH, H. E.		14 chromium steels (A)D	61	Joins Teledyne Material Research, Wal- tham, Mass., as manager, analytical en-	
Metrication for the United States Is it really necessary?	14	CHU, HUAI PU		gineeringN	107
CHESNEY, A. J., JR.	14	Stress corrosion testing of 7079-T6 alumi-		CLOUGH, W. R.	
Load and stability analysis of tubular		num alloy in seawater using smooth	70	Alloy steel dynamic strain-aging and	
strings (A)N	64	and precracked specimens (A)Ag Chu, T. Y.	70	notch brittle fracture (A)F	58
CHIANG, T.		Finite element solution of the steady-state		Anisotropic plate steel, Neck-and-split	
Dynamics response of a double squeeze-		compressible lubrication problem (A)		tensile fracture of (A)F Very-short-time, very-high-temperature	
film thrust plate (A)D	62	D	64	creep rupture of type 347 stainless steel	
Pulsating flows in infinite and finite coni-	00	CHUKWUJEKWU, S. E.		and correlation of data (A)Mr	
cal nozzles, Analysis of (A)	82	Plastic limit pressures of reinforced open-		CLUTCHES	
CHIANTELLA, N. A. Materials handling information and con-		ings in cylindrical shells, Experimental investigation of the (A)mr	69	Multiple-disk brakes and clutches during	
trol (A)D	54	CHUTES		engagement, The interfacial load dis-	
CHILDREN		Gravity flow of noncohesive granular ma-		of (A)Mr	
Infants and children in the adult world of		terials through discharge chutes, An	40	COAL	
automobile safety design: pediatric and		investigation of the (A)Ja	43	Automated coal-handling system for mine-	
anatomical considerations for design of	78	Cicci, F. Reducing the response of integrally stiff-		mouth power station (A)	54
child restraints (A)	10	ened structures to random pressures,		Coal as an industrial fuel (A)Je	
Elected ASME FellowJe	100	Methods of (A)Ag	62	Coal-to-gas pilot plant	1 83
CHIMNEYS	.00	Сютті, С. А.		Part 3Ja	24
Dual-flue chimneyO	103	Measuring static charge density in a flow-		Monitor for sulfur in coalAg	80
Settling of dust particles borne by hot	.00	ing fluid, A system for (A)N	63	Operating coal-fired, open-cycle MHD)
chimney plumes, On the (A)Mr		CIRCUITRY Bubble circuits	55	systems at low air/fuel ratios (A)My Powering mammoth draglineJe	
CHIPP, RODNEY D., AWARD		Bubble circuitryN Fluidic realization of threshold logic (A)	90	Removal of pyrite from coal, The (A)F	
Society of Women Engineers presents	461	Mr	65	Sulfur content of coal, Facing up to the	е
first award to Clarence E. DavisMr	101	Fluidic resistorsF	43	(A)J	e 70
CHISEL, D. M.		Hazards in pneumatic fluidic circuits (A)	61	Unique application of gas turbines in a	
Fluidic proportional thruster system for sounding rocket applications, A (A)		Miniature laser circuitsS		coke and coal chemical plant, A (A)	
Mr.	64	CIRCULATION	-	COATE, R. E.	
CHITTENDEN, WILLIAM A.	-	Circulatory system with bilinear hystere-		Manned aerospace simulation (A)	8 74
Elected to board of directors, American		sis damping, On stability of a (A)0	81	Coatings	- 1
Nuclear Society0	125	Precursor cerebral circulation models (A)		Effects of coatings, containing spatially	,
Сни, Ү. Р.		S	77	stabilized polar liquids, on stress corro	-
Stress concentration around a furrow		CITY UNIVERSITY OF NEW YORK CITY		sion and fatigue resistance on metal	
shaped surface defect in rolling con- tact, An analytical study of the (A)D		City College Research fellowship for fluids	104	EGD coating system I	

COATINGS (Continued)		Standards information serviceMr	83	COMMITTEE ON INTERNATIONAL EXCHANGE	
Robot-operated coating gunJe	50	U.S. Secretary of Commerce establishes		OF PERSONS	
Совв, R. O.		Metric System Study Advisory Panel Louis Polk named panel chairmanD	95	Exchange scholarJl	85
Pool boiling heat transfer from teflon-		Roy P. Trowbridge named panel mem-	90	COMMUNICATIONS. See also NORTHWEST	
coated stainless steel (A)My COBB, WILLARD H.	96	ber	95	PASSAGE	
THE PARTY OF THE P	102	WorkshopMy	119	Impact on the environment (Ed)N	17
COBERLY, CLARENCE J.	102	World measurement system?	83	Improving communications with your en-	- 11
Receives AIME's 1969 Anthony F. Lucas		Coeling, K. J.		gineers — a case study (A)S	67
gold medalJe	99	Incipient and nucleate boiling of liquid	61	New phone for deaf and blindD	40 38
COCHRAN, CHARLES B.		hydrogen (A)Je	61	On the beam	49
Appointed manager of contract develop-		Hard-core unemployed, Possibilities of on-		"The Paranoid style,"S	81
ment, Martin & Nettrour Contracting		the-job training of the (A)0	79	Tunnel communicationAp	42
	125	COHEN, R.		COMMUNITY IMPROVEMENT	
CODES AND STANDARDS		Electrodynamic oscillating compressors		Beauty of it, The (Ed)	
ASME members appointed to U.S. Depart- ment of Transportation's Technical		Part 1 — Design based on linearized		Underground line, The (C)Mr	75
Pipeline Safety Standards Committee		loads (A)0	74	COMPENSATION	
Ag	103	Part 2 — Evaluation of specific designs	ma	Big dollar, The (compensation programs	
ASME safety codes: response to public		for gas loads (A)O	76	for engineers)	
needsMy	109	Modeling vibration characteristics of a		He played the game (C)Mr	74
Protecting the public (C)Ag	76	fluid drive control mechanism (A)Ag	64	COMPOSITE MATERIALS	
ASME standard — control of dust emis- sionAp	79	Coils	100	Composite materials development for cry-	
Being drafted: a food and drug equip-	10	Graphical performance criteria for mov-		ogenic bearing retainers (A)Ap Dispersive pulse propagation parallel to	53
ment codeMy	140	ing coil motors (A)S	74	the interfaces of a laminated composite	
Boiler and pressure vessel codeMr	-	Helical tape forming device	63	(A)N	75
78; My 114; J1 77; S 86; O	97	3000-lb coils from new rod millJe	53	Experiments on dispersive pulse propaga-	
Adopted by GeorgiaJl	98	COKE		tion in laminated composites and com-	
And all the ships at seaMr Certificate of authorization for engi-	82	Unique application of gas turbines in a coke and coal chemical plant, A (A)		parison with theory (A)N	76
neering-contractorMy	118	Ag	68	Fiber glass combustion-air blowersS	59
Design considerations of USAS B31.7,		Colangelo, V. J.		Fiber-reinforced superalloyJe 49; Ag Flow stress of 6061 Al alloy composites	46
nuclear power piping (A)My	107	Corrosion fatigue in surgical implants		(A)Mr	72
M. W. Kellogg Co. meets requirements		(A)Ag	70	Material characterization results for a	
Philadelphia and Delaware sections con-	99	COLE, CHARLES D.		selected graphite fiber/epoxy composite	
duct PVC courseN	82	First aerodynamic torque converter for		(A)Ag	68
Brake systems researchAg	48	gas turbines, Design and test of the	80	Metal matrix composites, Characterization of (A)	62
Bridge inspectionAp	75	COLE, EDWARD N.	68	Syntactic foams, The static strength of	02
High speed production controls and stand-		Teamwork and understanding: keys to		(A)D	66
ards (A)S	70	national progressAg	14	Tensile fracture of parallel fiber compos-	
Impact on the environment (Ed)N ISO — the global viewS	17 90	COLE, R. R.		ites, A statistical model for the (A)	
Laser wavelength — new length refer-	00	One dimensional equilibrium cutting gap		Nil-time of a legislated between the	66
ence?My	88	in electrochemical machining, Prediction		Vibrations of a laminated body, On the	67
Metric system (C)N	78	of the (A)My	103	Wave-front analysis in composite mate-	
Metrication for the United States		COLLAPSE		rials (A)N	74
Congress needs answersMy	12	Steam bubble collapse, On some aspects	70	"Whiskers"Mr	82
Is it really necessary?	14	of (A)N	73	COMPOUNDS, INTERMETALLIC	
Canadian view, TheMy	19	COLLIMATORS		Levitation meltingAg	47
What are the options?My	22	Sine bar measures small anglesMy	86		-
Metric - there and here (C)	71	COLLINS, H. E.		COMPRESSED AIR	
"Metrification" (C)Ag	77	Superalloy development for aircraft gas	20	Compressed air in surgery and patient care, Application of (A)O	79
New ASME code for pumps and valves	-	turbines (A)Л	62		
for nuclear powerMr 79,	87 85	COLLINS, P. L. Identification of distributed parameter		COMPRESSED AIR AND GAS INSTITUTE	
Nuclear power piping codeN Performance test codes	00	systems using finite differences (A)		Conducts technical article contest0	126
Engineering analysis of experimental		Ap	58	Compressibility	
data (A)My	107	COLPITTS, JAMES V.		Effect of compressibility on the perform-	
Investigations on piping components,		ObituaryN	110	ance of a screw pump (A)Mr	64
valves, and pumps to provide informa-		COLUMBIA UNIVERSITY		Finite element solution of the steady- state compressible lubrication problem	
tion for code writing bodies (A)My	107	Columbia U. grants degrees in environ-		(A)D	64
Performance testing of large natural draft cooling towers (A)My	106	mental engineeringD	80		
Present state of the art of flow meas-	100	John R. Dunning becomes first holder of		COMPRESSION AND COMPRESSORS	
urement in the power industry (A)		new Thayer Lindsley professorship in		Analytical techniques for evaluation of compressor-manifold response (A)N	63
My	107	applied science at Columbia University	114	Automation systems for large gas pipe-	00
Standard for the design of pumps for		Correse	114	line compressors (A)S	75
water-cooled reactor systems (A)	100	COLUMNS		Compressor or pump stage for fluctuating	
Uncertainty analysis in steam turbine	106	Buckling of a column with random initial deflections, The (A)O	81	lift, The quasi-steady design of a (A)	-
testing: a report by ASME Perform-		Colwell, G. T.		Crack growth under cyclic compression	64
ance Test Code Committee No. 6 on		Low density nozzle flow (A)F	62	(A)F	57
steam turbines (A)My	106		20	Efficiency characteristics of reciprocating	
Pressure piping codeJl 79; Ag 85;		COMBS Automatic machine for percussive weld-		compressors (A)Ap	58
N 82; D	71	ing of contacts on miniature wire spring		Electrodynamic oscillating compressors	
Pressure vessel piping code And all the ships at sea	82	relay single wire combs, An (A)My	102	Part 1 — Design based on linearized	
	02	Combustion		loads (A)	
Proposed — USA standard internal grind- ing machines — universalN	82	Convective heat transfer in a gas-fired		Part 2 — Evaluation of specific designs for gas loads (A)	
Public contract standards	91	pulsating combustor (A)F	60	Fan/compressor noise reduction (A)Jl	
Public hearing on reinforced plastic pres-	31	Fiber glass combustion-air blowersS	59	Flow through cascades of slotted com-	
sure vessels — Section X		NZL gas turbine combustion chamber (A)	-	pressor blades (A)Jl	60
PreviewAp	82	Stratified charge The third evels No	68	Fluidic compressor bleed control, A (A)	
Review0		Stratified charge, The third cycle —Mr Stratification amplification (C)Je	29 72	PJ	
Reflections on a year of serviceJe	71		12	Fracture of notched polymethyl methacry- late rings loaded in diametral compres-	
Revised federal standards and procedures		COMERFORD, J. Using remote radio controls in redesign		sion, Some observations on (A)D	
for equipment acceptance in meat and		of crane materials-handling systems at		Gas turbine-reciprocating compressor	
poultry plants (A)S	68	Lockheed-Georgia Company (A)D		drive, Dynamic analysis of a (A)F	
Roundness measurement		Comity		Oil-free linear-motor resonant-piston com-	
Part 2 — The proposed standardN	36	Universal comityJa	54	pressors, Recent developments of (A) O	
Part 3 — Applying the standardD Roundness standard in use, The (A)	30	A C. C. C. STANDER AND SHAPPING THE PROPERTY OF THE PROPERTY O		Pulsation effects on reciprocating com-	
Koundness standard in use, The (A)	53	COMMERCE Unit loads in world commerce, The role		Pressers (A)	
Standards dilemma, TheJe	84	of (A)D	56	intake flow distortion, The (A)Jl	

(Continued)		vapor on a horizontal cylinder at nor-		thermal contact resistance studies (A)	
Setting and grouting large compressor		mal gravity (A)N	72	Му	97
units, Advances in (A)	75	Nusselt condensing coefficients for cir-		Unbonded contact between plates and an	-
Simplified welded specimen for evalua-		cular tube fields (A)Je	62 99	elastic half space, On the (A)	82
tion of low-cycle fatigue under com-		Pressure drop in condensation (A)My CONDUCTION	99	Containerization	
pression (A)	60	Hyperbolic heat-conduction equation —		Understanding today's container systems	56
pressor set for nuclear application, The		a solution for the semi-infinite body		for physical distribution (A)D	00
redesign and simulated test of a (A)		problem (A)	87	CONTAINERS	
Sand basels	68	Semi-discrete approximate solution of the inverse problem of transient heat con-		Controlled environment storage facility	
Speed hearing	67	duction, A (A)My	99	for nuclear waste containers, A (A)	63
for small gas turbines, The develop-		Transient heat conduction with time de-	111	Integrity of irradiated fuel shipping con-	
ment of (A)	66	pendent boundary conditions (A)N	70	tainers subject to hypothetical fire acci-	40
Turbine compressor set in the closed cycle		Conductors		dent (A)	62
(AK process) system, Optimization of the (A)Jl	66	Flat conductor cable technology (A)S	68	high-strength and high-melting-point	
Vibration amplitudes of compressor blades		Turning vanes in a square conduit elbow,		materials, with isothermal surface of	
resulting from scatter in blade natural		Performance of (A)0	73	die and container, A study of (A)D	63
frequencies (A)F	59	Cones	- 65 - 1017	CONTAINMENT	
COMPTON, W. A. High temperature sensors for gas tur-		Dynamic response of cylindrical and coni-		Engineering practice for prestressed con-	
bines (A)	65	cal panels, The (A)0	82	crete structures in nuclear contain-	63
COMPUTER-AIDED DESIGN	-	Hyperbolic heat-conduction equation — a solution for the semi-infinite body		ment applications (A)Ap Passively cooled containment structure,	00
Computer-aided designD	48	problem (A)O	87	The design of a (A)Ap	62
Computer code for performing parametric		Longitudinal impact on a hollow cone (A)		Pressure-suppression/gravity-flooding con-	-
studies on liquid-metal fast-breeder re-		N	75	tainment system (A)Ap	63
TAMPA — a computer program for the	64	Stress distribution and spring rates in a cantilever cone ring combination, The		CONTAMINATION	
analysis of reactor fuel and clad (A)		(A)Mr	69	Correlation of hydraulic component con-	
Ар	65	Three-dimensional boundary-layer flow a-		tamination tolerances with filtration capabilities (A)	70
COMPUTERS		bout an ablating slender cone (A)0	76		
Automatic meter readingJe Body tooling via computerJl	84 51	Three-dimensional boundary layers on cones at small angles of attack (A)Je	66	CONTESTS	
Bubble circuitryN	55		00	American Iron and Steel Institute Design in steel contest, 4th biennial	
Cities of tomorrowMr	59	Conferences. See Meetings		Design in steel contest, 4th Diemina	120
Complex harmonic analysis of plane mech-		CONNON, GEORGE W.	100	Compressed Air and Gas Institute spon-	
anisms, Programming on digital com-		ObituaryAg	100	sors nationwide technicle article con-	
puters and experimental examples (A)	45	CONNOR, LYLE B.	110	test Stephen E. Amos wins 1st prize0	126
Computer-aided systems approach to per-	40	ObituaryN	110	Design problem contest of ASME	150
sonnel administration, On a (A)Ap	57	CONNOR, SAMUEL I.			104
Computer graphicsMr	57	College antecedents of successful engi- neers		Grand designMr	57
Computer scheduling and simulation sys- tem (A)Ag	73	Lehigh and Drexel were skipped (C)		Continuity	
Computerized biomechanical model, A —	10	Ар	67	Stability of continuous dynamic systems	
development of and use in studying		Conservation		with parametric excitation (A)0	80
gross body actions (A)S	77	Looking ahead in nuclear powerAg	30	Contours	
Computers in the textile industry, The	40	Natural resources management	25	Contour tracing machineN	44
future of (A)	46 57	Part 1: Air	73	CONTROL, NUCLEAR	
Electronic "gray matter"S	56	Part 2: WaterAp	33	Nuclear control instrumentsAg	57
Engineering applications with a small		CONSTANTINESCU, V. N.		CONTROL SYSTEMS	
computer (A)S	67	Influence of inertia forces in turbulent		A-C static variable-frequence speed con-	
Home-based computersO ID card based on hand geometryAg	58 51	and laminar self-acting films, On the		trol (A)D	54
Laser readerS	51	(A)D	64	Automated coal-handling system for mine-	
Management systems in the 70'sN	19	Construction	***	mouth power station (A)D	54
Matric Computer for the solution of me- chanical vibrations problems, The (A)		Concrete approach to construction, AS DIVERCON 1: a diver construction ex-	58	Centrally located controls for an industrial power plant (A)D	59
Ag	60	periment, development problems and		Development of voluntary controls (A)	-
Metalworking: a profile of the futureF	39	solutions (A)Je	58	Je	68
New Univac facility	56	Garbage block, The: a new building mate-		Electric-hydraulic control system for	20
On the beamN	49	rialD	19	underwater Christmas trees (A)N Electrotorque static control for d-c motors	60
Power-demand computerS Reliability in computer programsF	51 24	Sulfur bond	53	(A)D	54
Bafflegab? (C)Ap	68	Consulting Engineers Council	75	Integration of control and fuel system	
Scanning N.Y. skiesMy	123	Bridge inspection	75 83	components today and tomorrow (A)	
Selection of optimum cutting conditions through digital computation, On the		Names Thomas B. Robinson 1969-1970		Metariala handling information and ass	66
(A)My	102	president-electAg 103; S	114	Materials handling information and con- trol (A)	54
3-D drawings from 2-D viewsJe	46	Special committee, to study merger with		Motor controls — past and present (A)	
U.K. leads computer raceMr	82	American Institute of Consulting Engi- neers and Professional Engineers in		D	54
"Unbundling"D	78	Private Practice, headed by John K. M.		New wrinkles in static a-c crane control	
COMSTOCK, T. R.		Pryke0		Proportional speed floating control for	54
Application of controlled mechanical im- pedance for reducing machine tool vibra-		Consumers		liquid pipe lines (A)N	
tions (A)Ag	63	National biomedical conference urges con-		Synthesis of a pure-fluidic temperature	
COMTOIS, WILFRED H.		sumer protectionD		control system (A)My	
Protecting the public (C)S	82	Revisions in state laws (A)S Scanning the N.Y. skies		Using remote radio controls in redesign of crane materials-handling systems at	
CONCORDE		The second secon	120	Lockheed-Georgia Company (A)D	
Letdown, A (C)Ja	48	CONTA, LEWIS D. Named professor of mechanical engineer-			-
Concordia, C.		ing and dean of the College of Engi-		Convection Combined free and forced convection for	
The commandments (C)Jl	73	neering, University of Rhode Island,		fully developed laminar flow in hori-	
Concrete		Kingston, R.IS	114	zontal tubes, Analysis of (A)N	71
Concrete approach to construction, AS	58	CONTACTS		Convective heat transfer in a gas-fired	1
Engineering practice for prestressed con- crete structures in nuclear containment		Automatic machine for percussive weld-		pulsating combustor (A)	
applications (A)Ap	63	ing of contacts on miniature wire spring relay single wire combs, An (A)My		Dynamic programming approach to sta- bilize forced-convection two-phase flow	
4X stronger than concreteS		Contact stress between two-dimensional		systems with "pressure-drop" oscilla-	
CONDENSATION		finite elastic bodies (A)N	74	tions, A (A)N	70
Condensation of steam on a rotation ver-		Elastic contact of a hollow ball with a	1	Free convection heat transfer from ver-	
tical cylinder (A)N		flat plate, Analysis of the (A)		tical isothermal cylinders with trans- verse curvature effect (A)	
Effect of thermocapillary flow on heat transfer in dropwise condensation, The		Elastohydrodynamic film thickness in ar elliptical contact, A numerical solution		Heat transfer laminar natural convection	
(A) N	71	of the (A)	87	within rectangular enclosures (A)?	

CONVECTION (Continued)		CORNELL UNIVERSITY SOCIETY OF ENGINEER	ts	tion film. Part 1: theoretical model (A)	
Impairment of turbulent convection heat		Fifth annual excellence in teaching award		D	64
transfer at supercritical pressures at		A CONTRACT OF CONT	126	Cracking	
forced flow of fluid in the vertical chan- nels, To the question of the (A)N	-	CORROSION AND DEPOSITS		Field assembly and erection of heavy-wall	
Induced convection effect upon the peak-	65	Corrosion failures of spacecraft hardware	70	hydrocracking reactors (A)Mr	68
boiling heat flux, An (A)N	72	(A)	70	CRACKS	
Natural convection flow, instability, and		tics (A)	68	Crack growth under cyclic compression	
transition (A)N	72	Effects of coatings, containing spatially		(A)F Effects of material properties and com-	57
Natural convection in enclosed porous		stabilized polar liquids, on stress corro-		ponent geometry on unstable propaga-	
media with rectangular boundaries (A)	70	sion and fatigue resistance on metals		tion of defects (A)D	60
Natural convection local heat transfer	10	(A)Ag	69	Fluorescence crack detectionS	65
on constant-heat-flux inclined surfaces		Fretting corrosion of unlubricated instru- ment ball bearings in a controlled en-		Generation of crack propagation data on	
(A)N	71	vironment (A)	84	notched rotating beam specimens by	
Optimum arrangement of rectangular fins		Hot-corrosion-resistant alloys for marine		means of an interrupted stressing tech-	57
on horizontal surfaces for free-convec-		applications, Progress in the develop-		nique (A)F Green's function for the stress-intensity	01
tion heat transfer (A)	70	ment of (A)Jl	61	factors of edge cracks and its applica-	
ternal natural convection flow (A)N	65	Interpreting laboratory stress-corrosion		tion to thermal stresses, A (A)F	57
Transition from the turbulent to the lam-	00	cracking data in materials selection (A)	-	Interpreting laboratory stress-corrosion	-
inar regime for internal convective	10	Iron deposition and well fouling at Brook-	69	cracking data in materials selection (A)	
flow with large property variations (A)		haven National Laboratory (A)F	61	Ag	69
N	68	Mitigating hydrogen damage and liquid	0.2	Stress-corrosion cracking of AISI 52100	
Turbulent natural convection boundary		phase corrosion in an electrical utility		steel in turbine lubricant environments (A)Ag	70
layers, An experimental study of (A)	70	steam generator, Case study in (A)		Stress induced diffusion and stress corro-	10
N	73	Ag	71	sion cracking (A)Ag	69
Conveyors. See also Materials Handling		ND testing for corrosion pitting0	60	Stress intensity factors for edge cracks	
Oscillating conveyors, On the design of		New approach to the study and preven-		in rectangular plates with arbitrary	
Oscillating conveyors, On the design of:	44	tion of deposits in modern power sta- tions, A (A)D	59	loadings (A)F	57
case of simultaneous normal and longi-		Recent experience with ash deposits in	00	Use of tapered double-cantilever-beam	
tudinal oscillations (A)D	57	refuse-fired boilers (A)My	105	specimens for fatigue crack growth stud-	
Screw conveyers and feeders, A study of		Stress-corrosion cracking of AISI 52100		ies (A)Ag	71
factors affecting the performance of		steel in turbine lubricant environments		CRAIG, G. T.	
(A)Ja	43	(A)Ag	70	Transport processes in magnetosolid- mechanics - adiabatic conditions (A)	
STAKRAKE — new concept in bulk ma-		Stress induced diffusion and stress corro-	69	mechanics - adiabatic conditions (A)	81
terials handling (A)	57	sion cracking (A)Ag	69	CRAMER, E. R.	01
Tow-type conveyors with accumulator at- tachments (mechanisms which bring		CORRSIN, STANLEY	190	Heat transfer to horizontal gas-solid	
moving materials to a stop, softly) (A)		Elected ASME Fellow	120	suspension flows (A)	20
D	57	COST ENGINEERING Aluminum aspects of cost engineering			00
Cook, A. R.		(A)N	65	CRANDALL, STEPHEN H.	104
Improved galvanized steel (A)0	80	COTTA, G. A.	-	Elected ASME FellowAg	104
COOKE, EARLE S.		Response of a fluidic air gauge (A)Je	64	CRANE, EDWARD J.	***
ObituaryMy	154		-		110
COOLANTS AND COOLING		COTTAM, HAROLD J.	100	CRANE, L. S.	
Cooled turbine efficiency, Systematic		ObituaryD	100	Track quality index, Development and use	
evaluation of (A)Jl	67	COTTON		of a (A)Ag	72
Effects of transpiration cooling on tur-	••	Fundamentally new cotton spinning sys-	46	CRANE, R. A.	
bine stator blade aerodynamics, Experi-		tem, Progress toward a (A)Ja	40	Computer code for performing parametric	
mental investigation of the (A)Jl	64	COUCH, JAMES G.		studies on liquid-metal fast-breeder re-	**
Heat pipe design for electron tube cooling	**	Elected vice-president of engineering, Na-		actors, A (A)Ap	64
(A)N	66	tional Distillers and Chemical Corp., New York, N.YAp	97	CRANES	
Laminar, transition, and turbulent bound- ary-layer heat-transfer measurements		COUNCIL OF ENGINEERS AND SCIENTISTS		New wrinkles in static a-c crane control	**
with wall cooling in turbulent airflow				Using remote radio controls in redesign	54
through a tube (A)N	69	ORGANIZATION	mr.	of crane materials-handling systems at	
Passively cooled containment structure,		Unions-Nat'l FederationAp	75	Lockheed-Georgia Company (A)D	54
The design of a (A)Ap	62	COUPLERS AND COUPLINGS		CRAVEN, JOHN P.	
Reactor arrangement for a piped liquid		Effects of modal cross-coupling on metal-	04	ObituaryJa	102
metal-cooled fast breeder reactor (A)	64	turning operations, The (A)Ag 4-bar linkages adjustable for several ap-	64	CRAWFORD, FRANKLIN G.	202
Thermal response of a reactor fuel as-	04	proximate straight-line motions of a		ObituaryMr	105
sembly cooled by flooding under loss-of-		coupler point, Synthesis of (A)Ja	45		100
normal-coolant conditions (A)Ap	62	Sonicar (A)F	53	CRAWFORD, JOHN R.	
Turbine blade cooling, Some aerodynamic	-	COURTNEY, WILLIAM J.		ObituaryJe	103
aspects of (A)Jl	60	Promoted to senior engineer at IIT Re-		CREATIVITY	
COOLING TOWERS		search Institute, engineering mechanics		Grand designMr	57
Performance testing of large natural		division, Chicago, Ill 8 114; O	125	Information + intuition = decision0	31
draft cooling towers (A)My	106	Cousin, S. B.		Interpersonal relationships and the man-	pre-
Coon, C. W.		Three-dimensional boundary layers on		Mind into matter	73 52
Transition from the turbulent to the		cones at small angles of attack (A)		_	94
laminar regime for internal convective		Je	66	CREDIT CARDS	
flow with large property variations (A)		COVELLI, V. H		ID card based on hand geometryAg	51
N	68	Reject heat and radiation from implanted		CREEP	
COOPER, J. H.		radioisotope sources, Studies of (A)		Behavior of nonlinear viscoelastic mate-	
Appointed New York district manager for	***	Му	105	rial under simultaneous stress relaxa-	
Bailey Meter Co., Wickliffe, OhioO	126	COVER, THEODORE L.	-	tion in tension and creep in torsion	
CORDIANO, H. V.		Steam versus diesel (C)Mr	76	(A)Je	
Effect of residual stresses on the low cy-		COWAN, A.		vessels steel (A)Ag	
cle fatigue life of large scale weldments		Fracture initiation in low strength steel		Double-notch creep rupture of 5 Cr-0.5	41
in high strength steel (A)D	60	pressure vessels (A)I	59	Mo steels (A)P	
Corey, A.		COWAN, ROBERT B.		Ductile creep rupture of shells with strain	
Titanium castings in gas turbine engines,	20	ObituaryF	88	hardening and time-dependent loading	
The potential of (A)Jl	62	Cox, J. E.		(A)Mr	71
COREY, RICHARD C. (editor)		Undergraduate engineering laboratory in-		Very-short-time, very-high-temperature	
"Principles and Practices of Incineration		structionM	36	creep rupture of type 347 stainless steel and correlation of data (A)	
(B)D	67	Cox, R. H.			
CORNELL, DANA R.	100	Linearized wave propagation models for		CRERAR, JOHN, LIBRARY	
ObituaryJe	103	arterial blood flow analysis, Comparison		National translation center at John Crerar	
CORNELL, DONALD H.		of (A)	3 78	libraryMy	127
ASME vice-president, membership, and		COYNE, J. C.		CRESS, H. A.	
policy board (1970-1972)N	103	Conditions for the rupture of a lubrica	•	Torsional properties of wire rope (A)O	79

Coordination analysis Torridation		CYBRIWSKY, A. Strain effect on EMF of silver iodide cells		to see the second secon	
Coordinating engineering, manufactur- ing, and marketing of new products		(A)Je	68	4 persons were all by the	
with simplified PERT/CPM (A)S	68			DAIR (DRIVER AID, INFORMATION AND	
CROFT, DANIEL ROBERT		CYCLES AND CYCLING		ROUTING)	
Elected ASME FellowAp	99	Dependence of power cycles' performance		On the beamN	49
Crooker, T. W.		on their location relative to the Andrews curve, The (A)	67	DALE, J. R.	
Corrosion-fatigue crack propagation stud-		Evaluation of heat exchanger surfaces for		Water drag effects of flow induced cable	
ies of some new high-strength structural steels (A)Ag	70	use in gas turbine cycles (A)My	99	vibrations (A)Mr	60
CROSBIE, ALFRED LINDEN	10	Experimental approach to question of		DALTON, C. Strictly sinusoidal flow around a station-	
Joins University of Missouri Rolla fac-		2-stroke or 4-stroke cycle, particularly		ary cylinder (A)0	73
ulty as assistant professor in me-		for diesel engines of extremely high specific output (A)Ag	74	DALY, GEORGE F.	
chanical engineeringAp	98	New 11,000 hp industrial gas turbine, De-			127
CROSBY, ROBERT W.		sign and development of a (A)Ag	68	DALY, JOHN FRANCIS	
ObituaryN	110	Structural growth induced by thermal cy-		00100003	102
CROSSLEY, F. R. E.		cling (A)	71	DALZELL, R. CARLSON	
Gross motion attributes of certain spatial mechanisms (A)	45	Thermal ratchet mechanism, The (A)	72	Protecting the public (C)	91
CROTHERS, J. M.	40	Turbine compressor set in the closed cy-		DAMP, A. F.	
New devices for managing the product		cle (AK process) system, Optimization		Metre meter (C)Mr	76
development process (A)Ap	56	of the (A)	66	DAMPERS AND DAMPING	
CROWLEY, JOHN D.		Cylinders		Circulatory system with bilinear hystere- sis damping, On stability of a (A)O	81
Metric — there and here (C)Jl	71	Buckling of cylindrical shells, The effect		Designing optimum dampers against self-	0.1
CRYOGENICS		of general imperfections on the (A)O	81	excited chatter (A)My	102
Composite materials development for cry-		Condensation of steam on a rotation ver-		Knock suppressor for large gas engines	
ogenic bearing retainers (A)Ap Cryogenic explosion formingN	53 55	tical cylinder (A)N	70	(A)s	75
Food fast frozen with "Freon" freezant	00	Critical submergence for vortexing in a		Parallel damped dynamic vibration ab- sorbers, Analysis of (A)Mr	69
J	51	vertical cylindrical tank, Experimental investigation of (A)	76	Resonant beam tuned damping device, A	
Small cryogenic regenerator performance		Deformation and fracture of steel from	-	(A)P	59
(A)Je	61	the examination of the behavior of		Transmissibility measurements for the de-	
Weight shaverS CRYSTALS	53	thick-walled cylinders submitted to high		termination of structural damping (A)	
Precision grind	65	pressures, Study of the (A)Mr	68	Ag	64
CUBIC BORON NITRIDE	00	Deviations from the cosine law for yawed cylindrical anemometer sensors (A)		DANUBE RIVER	
Precision grind0	65	Je	65	Pipeline bridgeD	52
CUFFEL, R. F.	-	Dynamic response of cylindrical and coni-		DARBY, JACK D.	-00
Laminar, transition, and turbulent bound-		cal panels, The (A)0	82	ObituaryF	88
ary-layer heat-transfer measurements		Elastic filament reinforcement of a visco-	76	DARLINGTON, STEPHEN P., III	***
with wall cooling in turbulent airflow	-00	elastic cylinder, On (A)N Elastohydrodynamic squeeze films be-	10	Coronary management of	110
through a tube (A)N Laminarization of a turbulent boundary	69	tween two cylinders in normal approach		Dassler, Albert L.	
layer in nozzle flow — boundary layer		(A)D	64	Appointed to newly created position of	
and heat transfer measurement with		Excitation of an elastic cylindrical shell		director of engineering, Koehring Di- vision of the Koehring Co., Milwaukee,	
wall cooling (A)N	67	by a transient acoustic wave (A)N Free convection heat transfer from verti-	76	WisAp	97
CULPEPPER, W. B.		cal isothermal cylinders with transverse		DATA PROCESSING	
Ocean simulation laboratory, An (A)F	54	curvature effect (A)N	73	Management and control of product en-	
CULTURE		Honing machineS	65	gineering changes - data processing	
Prometheus unboundN	28	How thickness and material properties in-		equipment (A)S	68
CUMMINS, D.		fluence thermal shock stresses in flat plates and cylinders (A)Ag	68	Management systems in the 70'sN	19 78
Unsteady pressure differential in a capil-		Influence of Bauschinger effect on re-	00	"Unbundling"	10
lary-tube gas viscosimeter, Approxi- mate correction for (A)0	00	verse yielding in thick-walled cylinders		DATA SYSTEMS	
	83	(A)D	60	U.S. space centers use quick-retrieval data system (RECON)0	100
CUMO, MAURIZIO Bubble flow up to the critical pressure		Laminar film condensation of a flowing		XDS for SDSD	78
(A)O	87	vapor on a horizontal cylinder at nor- mal gravity (A)	72	DATTA, S. K.	
CUNNINGHAM, R. E.	0.	Nongray radiative transport in a cylindri-		Elastic waves in a hollow sphere, Three-	
Steady-state experiments on rotating ex-		cal medium (A)N	71	dimensional and shell-theory analysis	
ternally pressurized air-lubricated jour-		Nonlinear response of a cylindrical shell		of	
nal bearings (A)D	61	to an impulsive pressure (A)	80	Part 1: Analytical foundation (A)N	
Zero-load stability of rotating externally		Numerical solution for the mechanical be- havior of cylindrical fuel elements, A		Part 2: Numerical results (A)N	1.0
pressurized gas-lubricated journal bear-		(A)Ap	64	DAUGHERTY, ROBERT L.	
ings (A)D	60	Peristaltic waves in circular cylindrical	-	Receives ASME 50-year membership pin	108
CURTISS, CONRAD M.		tubes (A)N	73	DAVENPORT, M. E.	
Engineer unions on decline Engineer's plight, The (C)Mr	74	Relaxation of residual stresses in auto- frettaged cylinders, Investigation of the		Velocity profiles and eddy diffusivities for	
CURVATURE -		(A)F	57	fully developed, turbulent, low Reynolds	
Effects of curvature on laminar boundary		Stability of cylindrical bubbles in a verti-		number pipe flow (A)Mr	
layers in sink-type flows (A)Je		cal pipe (A)0	87	DAVEY, GERALD F.	
CURWEN, P. W.		Strictly sinusoidal flow around a station-	-	Elected ASME FellowJa	100
Gas bearings for small high-performance		ary cylinder (A)0		DAVEY, T. B.	
aircraft gas turbines, Feasibility of (A)		Traveling loads in a cylindrical bore, Re- sponse of an infinite elastic medium to		Mechanical heart assists, Development of	
0:1 6 1:		(A)0		(A)Mr	67
Oil-free linear-motor resonant-piston com- pressors, Recent developments of (A) O		Unsteady flow and wake near an oscillat-		Davidson, B.	
	75	ing cylinder, The (A)Je	64	Optimization of a class of river aeration	
Cushion hitch, The: a vibration-absorber		Cywin, Allan		problems by use of multivariable dis-	
for tractor-scrapers (A)Ag		Receives 1st award (1969) for outstanding		tributed parameter control theory (A)	
Freight car cushioning, The development		contribution in water quality control		DAVIES, CLARENCE E.	
of concepts in (A)		given by Process Industries Division of		Receives Society of Women Engineers'	,
Cushman, John A.		ASME	102	first Rodney D. Chipp awardMr	
Named a divisional vice-president and di-		CZECH. J.		DAVIS, FRANK WILSON	
vision manager of American Viscose		Getting and using feedback of information		ObituaryAp	10
Division, FMC Corp., Philadelphia, Pa		for design changes (A)		DAVIS, GLEN N.	
	80		/	ObituaryAs	100
CUTTING Selection of optimum cutting conditions		CZECHOSLOVAKIA		DAVIS, L. W.	
through digital computation, On the		Computing research center	57	Metal matrix composites, Characteriza-	
(A)M		CZYZEWSKI, HARRY		tion of (A)J	
Cybernetics		Elected president of Oregon Board of En-		DAVIS, VERNER F.	
Walking machineA	g 53	gineering ExaminersI		ObituaryN	11

DAVISON, E. J.		DEHART, R. C.	richt.	Bonding materials - diffusion bonding	7
Second order linear periodic system, The stability of a (A)	61	Southwest Research Institute underwater engineering laboratory, The (A)F		Bonding materials — explosive bonding	71
DAWSON, JOHN T.	01	DE HOFF, GERRY B.	56	(A)S	70
Joins Rohm and Haas Co.'s engineering		Joins McBurney Stoker and Equipment		Breathing apparatus for diving to great	-
div., Bristol, Pa	108	Co., Atlanta, GaMr	101	depths, Design of (A)S Changing support role of the technician	69
Relaxation of residual stresses in auto-		DELHAYE, J. M. General equations of two-phase systems		in engineering (A)S	74
frettaged cylinders, Investigation of the		and their applications to air-water bub-		Circular ring of arbitrary section, Three- dimensional deformation and buckling	
DAWSON, WYATT W.	57	flow (A)	72	of a (A)Mr	69
Appointed group vice-president for Rex		DELLA ROCCA, C.		Compressed air in surgery and patient	79
Chain Belt, Inc., Los Angeles, Calif.		New approach to the study and preven-		care, Application of (A)	19
Day, C. G., Jr.	119	tion of deposits in modern power sta- tions, A (A)	KQ	space design and analysis (A)S	70
How we specify fuels for our plants (A)		DELLINGER, C. L.	-	Computer graphicsMr Controlling electric motor speed (A)S	57 74
Je	70	Elastic support for a large roller bearing,		Coordinating engineering, manufacturing,	
DEAN, ALBERT G. Elected ASME Fellow	115	Design and load rating analysis of the (A)O	85	and marketing of new products with simplified PERT/CPM (A)S	68
DEAN, PETER P.	110	DEMASTRY, J. A.	00	Correlation of hydraulic component con-	00
Receives ASME 55 - year membership		Fracture toughness of irradiated and un-		tamination tolerances with filtration	70
DEAN, R. C., Jr.	95	irradiated heavy section pressure vessel material (A)Je	63	capabilities (A)	70
Straight channel diffuser performance at		DEMBICZAK, WALTER J.		(A)S	68
high inlet Mach numbers (A)Je	63	ObituaryN	110	Criteria for evaluating your noise prob- lems (A)	72
DEAN, ROBERT C., JR.		DEMOREST, GEORGE E. Obituary	110	Designing wire parts for high production	
Protecting the public (C)	84	DEMOTT, ROBERT W., JR.	***	DD	25
DECISION MAKING Impact of effectiveness concepts on the		Appointed vice-president, sales & market-		Effects of component geometry and sur- face texture on bearing performance	
project manager (A)Ap	56	ing division of Rex Chainbelt Inc., Milwaukee, Wis.	114	(A)S	70
Information + intuition = decision0	31	Denison, Ronald D.	***	Endurance strength and optimum dimen- sions of Belleville springs (A)Mr	70
Decision Theory		Manned aerospace simulation (A)S	74	Engineering applications with a small	
Operations research, decision theory, and the changing nature of engineering de-		DENN, P. D.		computer (A)	67
sign (A)0	79	New concepts in overland mobility (A)S	67	Developing (A)S	67
DECKEN, C. B. v. D.		DENNY, V. E.		Fatigue resistant fastener (A)S	72
Movement of fuel elements in the core of a pebble bed reactor, Investigation on		Laminar film condensation of a flowing vapor on a horizontal cylinder at nor-		Flat conductor cable technology (A)S Getting and using feedback of information	68
the (A)Ja	42	mal gravity (A)	72	for design changes (A)S	74
DECONTAMINATORS		DENSITY		Grand design Mr Grant for designers manual	105
Electrolytic water sterilizerJe	48	Density effects on fluidic feedback oscil-	79	Graphical performance criteria for mov-	
DEEP SUBMERGENCE RESCUE VESSEL.		lators (A)	78	ing coil motors (A)S	74
See Vehicles, Underwater		tion of alloys (A)N	70	Hard-core unemployed, Possibilities of on- the-job training of the (A)O	79
DEEP SUBMERGENCE SYSTEM PROJECT. See United States Navy		Measuring static charge density in a flow- ing fluid, A system for (A)N	63	High speed production controls and stand-	
DEFFET, L.		DENTURES	-	ards (A)	70
Deformation and fracture of steel from		Force distribution on lower partial den-		a helicopter application (A)S	73
the examination of the behavior of		tures with symmetric saddles, Theoret-	-	Hypo-hyperbaric chambers for medical	
thick-walled cylinders submitted to high pressures, Study of the (A)Mr	68	ical analysis of (A)S Depew, C. A.	77	centers, The design of (A)S Improved galvanized steel (A)O	74 80
DEFLECTION	40	Forced laminar flow convection in a hori-		Improving communications with your en-	-
Buckling of a column with random initial		zontal tube with variable viscosity and		gineers — a case study (A)	67
deflections, The (A)	81	free-convection (A)My Heat transfer to horizontal gas-solid sus-		graduate, The (A)	72
Finite deflections and snap-through of high circular arches (A)Je	65	pension flows (A)N		Injection molding of thermosetting mate-	60
Finite deflections of an elastic circular		DERIENZO, P. P.		rials (A)	00
plate with a central hole (A)O Finite symmetrical deflections on thin	83	Passively cooled containment structure, The design of a (A)Ap		S	70
shells of revolution, On (A)O	82	DERNER, WILLIAM J.	62	Interpersonal relationships and the man- agement of creativity (A)S	73
DEFLECTION		Named director of corporate product plan-		Kenai (Alaska) LNG plant design (A)N	60
Thoracic force-deflection studies in pri-	70	ning by the board of directors of Lipe-		Living with faultsF Long life, lightweight lubrication — sys-	39
mates (A)	78	Rollway Corp., Syracuse, N.Y.; will continue as manager of engineering for		tems for high speed machinery (A)S	71
Distinguished alumni (C)My	111	Lipe-Rollway's wholly owned subsidiary,		Magnetic perturbation inspection to im-	
DEFORMATION		Rollway Bearing CoJe	99	prove reliability of high strength steel components (A)	68
Bonded elastic mounts under combined		DERRIG, GEORGE J. Allis-Chalmers 6 x 6-"V" engines, De-		Management and control of product engi-	
loading of shear and normal forces (A)	65	velopment of (A)Ag		neering changes for aircraft (A)S Management and control of product engi-	68
Circular ring of arbitrary section, Three-	-	DERUNTZ, J. A., JR.		neering changes for automobiles (A)	
of a (A)Mr	69	Syntactic foams, The static strength of		s	68
Deformation and fracture of steel from	00	DESAL PRATEEN V.	66	Management and control of product engi- neering changes — data processing	
the examination of the behavior of thick-walled cylinders submitted to high		Design of a fluidic direct impact modu-		equipment (A)S	68
pressures, Study of the (A)Mr	68	lator (A)0		Manned aerospace simulation (A)S	74
Elastic deformation of a circular rod of		DESALINATION		Mass and velocity error effects on the performance of hydraulic energy ab-	
finite length for an axially symmetric end face loading, The (A)O	80	Application of the thermoeconomic ap- proach to the analysis and optimiza-		sorbers (A)Mr	70
Growth mechanism of lenticular carbides	1/1	tion of a vapor-compression desalting		Metrication for the United States	
in cyclically stressed 52100 steel, A study of the (A)O	85	system (A)D	59	Congress needs answersMy Is it really necessary?My	12
Influences of large amplitudes, trans-	00	Design Engineering Advanced structural design analysis tech-		How Britain is doing itMy	16
verse shear deformation, and rotatory		niques, Survey of (A)	67	Canadian view, TheMy	19
inertia on lateral vibrations of trans- versely isotropic plates (A)	81	Applying mathematical analysis tech-		What are the options?My Metric — there and here (C)Jl	71
Moiré method for measuring large plane		niques to solve engineering problems		Moral considerations of the engineering	
deformations, The: general theory and application to homogeneous deforma-		Assessing unbalance effects in a small	1	teacher involved in government research	
tion (A)N	76	Bent submarine cables, Axial stresses in	67	Multiple-disk brakes and clutches during	
DE GEE, A. W. J.		armor wires of (A)Mi	69	engagement, The interfacial load dis-	
Resistance against cavitation erosion of 14 chromium steels (A)		Bonding materials — adhesive bonding metals (A)		of (A)mr	
1-1/ ***********************************	~			1	-

New concepts in overland mobility (A)S	07	DEUTSCH, G. P.	44	Diffusion of load from a transverse ten-	
New concepts of split-spool valving (A)	67		44	sion bar into a semi-infinite elastic sheet, On the (A)Je	65
······································	72	Developing Countries		Effects of nonuniform inlet velocity pro-	DATE !
Nondimensional plots in nonlinear vibra-	-	Long-lived pump	04	files on flow regimes and performance	
Nonmetallic bearing materials (A)S	70 68	DEVINE, M. D.		in two-dimensional diffusers (A)Mr Estimating the combined performance of	62
Offset unsymmetric gyroscope with ob-	00	Offshore oil fields, Optimization studies in the development of (A)N	60	a turbine and exhaust diffuser, A	
lique rotor using (3 x 3) matrices with		DEVISSER, JOHN H.	•	method for (A)My	103
dual-number elements, Analysis of an	69	ObituaryS	116	Inverse transition in radial diffusers (A)	66
Operations research, decision theory, and	0.0	DEVRIES, K. L.	220	Lateral motion of individual particles in	
the changing nature of engineering de-		Electron paramagnetic resonance meas-		channel flow — effect of diffusion	340
sign (A)0	79	urements of strain induced ozone crack-	-	and interaction forces	
Optical sensors (A)S Optimization techniques in design (A)S	74 67	ing in rubber (A)Ag	71	Part 1 — particle behavior as a func- tion of systematic motion (A)N	66
Optimum design of rotating disks (A)S	73	DEXTER, GREGORY M.	100	Performance of two annular diffusers,	
Optimum filtration level, Determining			128	The effect of inlet conditions on the (A)	
the (A)	72	DIBOLL, W. B.		Mr	63
Organizing and structuring the functions in the smaller engineering department		Lateral stability of road and rail trailers, The (A)Ag	67	Straight channel diffuser performance at high inlet Mach numbers (A)Je	63
(A)S	73	DICKERSON, J. R.	01	Stress induced diffusion and stress corro-	00
Parallel damped dynamic vibration ab-		Stability of continuous dynamic systems		sion cracking (A)Ag	69
sorbers, Analysis of (A)Mr	69	with parametric excitation (A)0	80	Temperature dependent expression for the	
Photoelastic stress exploration for pre- liminary design (A)Mr	70	DICKERSON, S. L.		thermal diffusivity of solids, A technique to determine a (A)Je	62
Planning, scheduling, and control system		Wall attachment at high Knudsen num-		Velocity profiles and eddy diffusivities for	
for an engineering design group, De-		bers: experimental results (A)0	78	fully developed, turbulent, low Reynolds	80
velopment of a (A)Ag Quieter equipment, Guidelines for design-	74	DICKEY, PAUL S.		number pipe flow (A)Mr Venturi meter with separable diffuser (A)	62
ing (A)	79	Retires as chairman of the board, Bailey			62
Revised federal standards and procedures		Meter Co., Wickliffe, Ohio, after 44		DILLAWAY, ROBERT B.	
for equipment acceptance in meat and	40	years of continuous service with com-	113	Appointed Army Material Command's dep-	4
poultry plants (A)S Revisions in state laws (A)S	68 72			uty for laboratories, Washington, D.C.	
Rolling bearing endurance testers, De-		Dickinson, S. M. Flexural vibration of rectangular ortho-		0	125
sign of (A)S	74	tropic plates, The (A)	80	ASME department vice-president and policy board chairman, industry (1970-	
Rotating disk of nonuniform thickness,	07	Dicks, J. B.	-	1972)N	103
On the optimum design of a (A)S Roundness measurement	67	MHD power generation: current status		DI LUZIO, FRANK C.	
Part 1 — Importance and interrelation-		Ag	18	Natural resources management	
ships 0 26; (C) (D) (AC) D	67	Report by MHD subcommittees of		Part 2: WaterAp	33
Roundness as related to other meas-	E0	ASME energetics division (A)My	105	DIPUCCIO, CHARLES A.	
Part 2 — The proposed standardN	52 36	DICTIONARIES. See LITERATURE		ObituaryN	110
Part 3 - Applying the standardD	30	DIES		DIRECTORIES. See LITERATURE	
Roundness standard in use, The (A)	**	Forged impressionD	41	Disks	
Selecting materials to resist low cycle	53	Lubricated direct-extrusion process of		"A" eye aids space linkupMy	85
fatigue (A)S	68	high-strength and high melting point materials, with isothermal surface of die		Multiple-disk brakes and clutches during engagement, The interfacial load dis-	
Selecting metals for fracture toughness		and container, A study of (A)D	63	tribution and total transmitted torque	
(A)S	67	DIESEL AND GAS ENGINE POWER		of (A)Mr	70
Shock load protection through energy ab-		Allis-Chalmers 6 x 6-"V" engines, De-		Optimum design of rotating disks (A)S	73
sorption and dissipation methods, De- sign principles for (A)S	72	velopment of (A)Ag	74	Removing the squeal from the wheelAp Rotating disk of nonuniform thickness,	41
Shoe-type brake-clutch systems, Generaliz-	1-	Automation systems for large gas pipe-		On the optimum design of a (A)S	67
ing the analysis of (A)Mr	69	line compressors (A)	75	Simulation of ball-bearing lubrication with	
Stress concentration factors for U-shaped, hyperbolic, and rounded V-shaped,		meter readings (A)Ap	57	a rolling-disk apparatus (A)0	84
notches (A)S	73	Efficiency characteristics of reciprocating		Thermal shock on a finite disk due to an instantaneous point heat source (A)O	81
Stress concentration factors in filleted and		compressors (A)Ap	58	Dispersion	
grooved shafts subjected to torsion (A)		Experimental approach to question of 2-stroke or 4-stroke cycle, particularly		Dispersive pulse propagation parallel to	
s	74	for diesel engines of extremely high		the interfaces of a laminated composite	
Stress distribution and spring rates in a cantilever cone ring combination, The		specific output (A)Ag	74	(A)N	75
(A)Mr	69	Foundations and mountings for recipro-		Experiments on dispersive pulse propaga-	
Surveyor landing shock attenuation sys-		cating machinery, Design of (A)S Fuel additives for the suppression of die-	75	tion in laminated composites and com- parison with theory (A)N	76
tem, Design and analysis of the (A)S	70	sel exhaust odor and smoke		Dissipation	
Tightening torque versus bolt tension		Part I: Proposed mechanism for smoke		Equivalent nonlinear system approach to	•
relationships (A)	70	suppression (A)Ap	58	dissipative dynamical systems, Ap-	
Torsional properties of wire rope (A)O	79	Part II: Field trials (A)Ap Knock suppressor for large gas engines	57	plication of an (A)N	73
Ultrasonic joining of plastic parts (A)S	73	(A)S	75	Distortion	
Use of light in design — infrared (A)S	67	Large diesel engine, The - its role in		Distortion tolerance — by design instead	
Uses of textured metal (A)S	69	automated pipelines (A)S	75	of by accident (A)Ag	69
Value control (A)	67	Overall fuel economy of an internal com- bustion engine, An index to character-		DITARANTO, R. A.	
for brass forgings (A)S	69	ize the (A)Ap		Vibratory bending of damped laminated	
DESILVA, B. M. E.		Piston gasifier using computer cycle		plates, The free (A)Ag	60
Minimum weight design of disks using a		simulation, A design study of a (A)	277	Diverters	
frequency constraint (A)Ag	58	Setting and grouting large compressor	57	Diverters for T.F.L. tools (A)N	60
DE SOCIO, L. M.		units, Advances in (A)S	75	Diving	
Bounded expansions of supersonic flows		Spark in spark ignition natural gas en-		Breathing apparatus for diving to great	
(A)N	69	gines, The (A)S	75	depths, Design of (A)	
DESSAU, P. P.		Stationary engines — air polluter or not? (A)S	75	periment, development problems and	
Composite materials development for cry-	**	Two types of resonance in intake tuning,		solutions (A)Je	58
ogenic bearing retainers (A)Ap	53	The (A)S	75	Scuba diver performance in an open ocean	
DETECTORS AND DETECTING		Waukesha model L1616DSIN diesel engine		environment, Measurement of (A)Je	58
Detecting atomic flowMr	54	(A)s	75	Dixon, J. C.	
Detection of metallic objectsJa	31	DIFFUSERS AND DIFFUSION		Heat pipe design for electron tube cooling	
Flueric light-off detector (A)Jl		Bonding materials — diffusion bonding		(A)N	66
Fluorescence crack detectionS	65	(A)		Dobrovolny, J. S.	
Infrared tire testN	51	Theory and performance of (A)Mr		Increasing place of the technical institute graduate, The (A)S	
Subterranean leak locatorJe		Diffusion bonding Ti-6Al-4V for jet en-			- "
Tracking the sun	49	gine applications (A)Jl	67	DOCKING. See SPACE FLIGHTS	

DOENNECKE, H. CRAIG	12.	Drescher, A.	3 2.513	inois Gear Division, Chicago, Ill 8	114
Appointed chief design engineer at Unit Rig & Equipment Co., Tulsa, OklaN	107	Limit plasticity approach to some cases of flow of bulk solids (A)Ja	44	Dust, D. C.	
DOKAINISH, M. A.	101	DREXEL INSTITUTE OF TECHNOLOGY	44	Manned aerospace simulation (A)S Dust Emission	74
Gas turbine blade vibration, Experimental		Drexel establishes a multidisciplinary		ASME standard — control of dust emis-	
investigation of — a review (A)Ag	67	wave research centerJl	84	sionAp	79
Steady-state response of a two-degree-of- freedom double bilinear hysteretic sys-		DRILLING	-	DUST FALL	
tem (A)Ag	63	Deep-hole drilling	56	Settling of dust particles borne by hot	-
Dolinski, George		technology (A)N	62	chimney plumes, On the (A)Mr DVORAK, F. A.	71
ObituaryAp	102	DRING, R. P.		Effect of uniform injection on heat trans-	
DOLOMITE		Hot-wire anemometer calibration for		fer in the constant property turbulent	-
Capture of sulfur dioxide by limestone and dolomite, Basic factors in the (A)		measurements at very low velocity (A)	88	boundary layer (A)Je	62
D	58	DRINKER, P. H.	00	DVORINA, G. M.	
DOMINY, DENIS G.		No solution (C)Ag	75	Hydrodynamic character of burnout in subcooled liquid boiling in channels, On	
Appointed engineering design and develop-		DRISCOLL; JOHN M.		(A)N	70
ment manager, Alco Engine, Inc., Au-		Elected vice-president and director, Cana-		DWYER, O. E.	
DONACHIE, M.	126	dian Kellogg Co., Ltd., Toronto, Canada	105	Heat transfer to mercury flowing in line	
Titanium castings in gas turbine engines,		DROBILE, ALBERT W.	120	through an unbaffled rod bundle: ex- perimental study of the effect of rod	
The potential of (A)Ji	62	ObituaryJa	102	displacement on rod-average heat trans-	
Dong, R. G.		DROPKIN, DAVID		fer coefficients (A)Je	61
Tensile failure of viscoelastic materials under multiaxial loading, Description of		Selected to receive fifth annual "excell-		Dye, R. C. F.	
(A)Ap	66	ence in teaching award" from Cornell University Society of EngineersO	126	Aerodynamic stability of a cross-flow type finned tube heat exchanger, An investi-	
DOOGE, LEONARD		DROST, J. G.		gation of the (A)My	98
Obituary	124	Ten-year process gas turbine experience		Vibration amplitudes of compressor blades	
DOOLITTLE, JAMES H.		(A)Jl	67	resulting from scatter in blade natural	50
Named trustee emeritus at Aerospace		DROUIN, A. H.		Pyer, Ralph L.	20
Corp., Los Angeles, CalifN DORFAN. MORTON I.	107	Diverters for T.F.L. tools (A)N	60		102
Obituary	110	Dunuc, J. Effect of creep in low-cycle fatigue of		DYM, C. L.	
DORSEY, HARRY A.		pressure vessels steel (A)Ag	71	Buckling problems of axially compressed	
ObituaryF	88	Effect of mean stress and of mean strain		thin cylindrical shells of infinite or fin-	
Dosanjh, D. S.		in low-cycle fatigue of A-517 and A-201	71	ite length, Perturbation solutions for the (A)Je	68
Shock structure in transversely impinging jet flows (A)	79	Steels (A)Ag Ducts	**	DYNAMICS	-
Dougall, R. S.	19	Conical diffuser/exit duct combinations,		Active vibration isolation of human sub-	
Local heat transfer downstream of abrupt		Theory and performance of (A)Mr	65	jects from severe dynamic environments	
circular channel expansion (A)N	72	Flow in the hydrodynamic entrance re-		Application of the thermoeconomic ap-	65
Dow, Hamilton H.	(gion of ducts of arbitrary cross section (A)N	72	proach to the analysis and optimiza-	
Misleading caption? (C)My	111	Gas-borne flowing particulate suspensions,		tion of a vapor-compression desalting	
DOYLE, E. F.		Similarity in (A)Ja	44	system (A)D	59
Implantable, Rankine - cycle circulatory support system, Design of an (A)Ap	E4	Incompressible turbulent swirling flow in		Building block approach to structural dynamics (A)	63
DOYLE, EDGAR D.	54	stationary ducts, Analytical investiga- tions of (A)	82	Dynamic behavior of helical gears (A)	
ObituaryN	110	DUDEK, RICHARD A.		Ag	61
DOYLE, ERIC	220	Elected vice president, region IX of Amer-		Dynamic loads caused by vehicle-track	
Lateral vibration of V-belts (A)Ag	63	ican Institute of Industrial Engineers		interaction, A computer study of (A)	72
DRAFTING		Dudkin, O. N.	114	Dynamic measurement of absolute track	-
Computer-aided designD	48	Improved design, An (C)My	111	properties (A)Ag	72
3-D drawings from 2-D viewsJe	46	DUDLEY, CHARLES B., MEDAL OF ASTM.	***	Dynamic properties of the human leg,	
DRAG		See Honors		Experimental and analytic study of (A)	78
Aerodynamic drag on vehicles in tunnels		Dudzinski, T. J.		Dynamics response of a double squeeze-	
(A)0		Venturi meter with separable diffuser (A)		film thrust plate (A)D	62
Centrifuge analysis — effects on sedi- mentation coefficients of angular veloc-		Je	62	Effect of airflow on the behavior of foam as a dynamic element in shock and vi-	
ity lag, of deviations from Stokes' law		DUGAR, ALVIN B.		brations, The (A)Ag	66
of drag, and of acceleration effects (A)		C. I. T. sensors — a design evolution (A)	62	Head trauma — a parametric dynamic	
Water drag effects of flow induced cable	64	Dukelow, S. G.	-	study (A)S	79
vibrations (A)Mr		Appointed national sales manager of		Lateral dynamics of railway vehicles, General aspects of the (A)F	52
DRAGLINES	00	Bailey Meter Co., subsidiary of Babcock		Rigid-body rotor dynamics: dynamic un-	02
Powering mammoth draglineJe	53	& Wilcox Co., at firm's Wickliffe, Ohio headquarters	151	balance and lubricant temperature	
DRAKE, CHARLES		Dunn, J. T.		changes (A)	65
Elected vice-president-engineering, Pat-		Nuclear pressure vessels: site assembly		Thermoeconomics and the design of heat systems (A)	58
terson-Kelley Co., East Stroudsburg, Pa.		······································		DZAKOWIC, G. S.	
0	125	DUNNING, JOHN R.		Vapor velocity limit in a sodium heat	
DRAKE, GILBERT F.		Awarded Thayer Lindsley professorship in Applied Science at Columbia Univer-		pipe, Experimental study of (A)O	87
Appointed facilities director of Forbes Service Centers, a division of Forbes		sity School of Engineering and Applied			
Corp., Passaic, N.J.	103	Science, New York, N.Y., and director			
DRAKE, R. F.		of newly established Lindsley Labora-		The second section of the sect	
Fuel cell power supply for the artificial		Du Plessis, M. P.	114	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	
heart, Studies on a (A)Ap	54	Pressure signal generator for fluidic re-		EAGER, V.	
DRAKE, R. L.		search (A)0		Development of a quintuplex mobile serv-	
First approximation for flow through a porous tube, A (A)		DUPLICATOR		ice pump (A)N	62
DRALLE, HENRY E.	10	Four-in-one duplicatorD	39	EARLE, CLARENCE E., MEMORIAL AWARD	
Obituary	100	DURABILITY		OF NATIONAL LUBRICATING GREASE	
DRANSFIELD, P.		Plastics life spanMy	89	INSTITUTE. See Honors	
Flow and filtration characteristics of wire		DURAND, J. B.		EARTH SCIENCE	
cloth (A)My	104	Water resource development of Mullica River basin, New Jersey (A)S		Signatures in infrared (EROS)0	57
Dredging		Durelli, A. J.	00	Tektites from TychoN	53
Model tests of material flow through		High-frequency stress waves propagating		EARTH-MOVING EQUIPMENT	-
dredge cutters and suction piping (A)		in bars and plates, Photoelastic study		Underwater bulldozerAg	91
DREISIN, ALEXANDER		of (A)Je	65	EARTHQUAKES Living with faultsF	96
Allis-Chalmers 6 x 6-"V" engines, De-		Appointed vice - president and general		Response of bilinear structural systems to	7
velopment of (A)Ag		manager of Wallace-Murray Corp., Ill-		earthquake loads (A)Ag	63

EASTMAN, J. M.		College antecedents of successful engi-		Diffusion of load from a transverse ten-	
Fluidic compressor bleed control, A (A)	61	neersJa 53; addendum (C)My Distinguished alumni (C)My	67	sion bar into a semi-infinite elastic sheet, On the (A)Je	65
EBAUGH, NEWTON C.	91	Lehigh and Drexel were skipped (C)AP	67	Elastic contact of a hollow ball with a	-
Elected ASME FellowAp	99	Rensselaer errata (C)My	111	flat plate, Analysis of the (A)0	84
Electric utility industry, The: progress	40	Columbia University		Elastic-plastic analysis of flat plates by	67
and prospects0	35	New Thayer Lindsley professorship in applied science at School of Engi-		the finite element method (A)Mr Elastic-plastic plane-strain solutions with	01
EBERLE, FRED H.		neering and Applied Science		separable stress fields (A)N	75
ObituaryJa	102	First holder and director of Lindsley		Elastic-plastic stress distribution in a	-
Eck, B. J. Thermal stresses in railcar wheels, A		Laboratories is John R. Dunning J 119; 8	113	compressed ring (A)Mr Elastic - plastic, work - hardening arches	72
three-dimensional finite difference solu-		Deferment for graduate students (Ed)S	19	(A)0	82
tion for the (A)Ag	72	Engineering schools show 16 percent de-		Elastic ring, A mixed problem for an	
ECKERT, ERNST RUDOLPH GEORG		cline in graduate studentsAp	76	(A)Je	66
Dedicatee of 11th National Heat Trans-		Professional status (C)Ag Future of graduates (C)N	75 77	Elastic support for a large roller bearing, Design and load rating analysis of the	
fer Conference of 1969	118	Grant for designers manual	105	(A)	85
Elected ASME Fellow	120	Increasing place of the technical institute		Elastic waves in a hollow sphere, Three-	
cular porous tube with uniform mass in-		graduate, The (A)S	72	dimensional and shell-theory analysis	
jection through the tube wall (A)N	67	Lafayette to admit womenO Lifelong education for engineersJe	104 56	of Part 1: Analytical foundation (A)N	74
ECKMAN, DONALD P., AWARD		Lockheed donates "big dish" to Pacific	00	Part 2: Numerical results (A)N	74
Nominations open for award of American Automatic Control ConferenceMr	01	Union College for radio astronomyJe	76	Exact transient response of an elastic	
Recipient is W. Harmon RoyO	91 114	Management program at PIB	104	half space loaded over a rectangular	74
ECONOMIC DEVELOPMENT		Moral considerations of the engineering teacher involved in government research		region of its surface (A)	14
Regional development0	103	(A)S	71	plate with a central hole (A)0	83
Economics		North Carolina State University, Raleigh,		Impulsively loaded elastic-plastic beams,	
Application of the thermoeconomic ap-		N.C., names Carl Frank Zorowski as		Approximate solutions for (A)Je	66
proach to the analysis and optimization of a vapor-compression desalting sys-		R. J. Reynolds Tobacco Co. professor of mechanical engineeringS	113	Initial slope of elastic-plastic boundaries in combined longitudinal and torsional	
tem (A)D	59	Reading list (C)Ja	48	wave propagation, On the (A)	80
Avalanche: The cities and the 70'sJe	32	Recruitment heaviest in history of Poly-		Longitudinal oscillation of a liquid-filled,	
Decline in oil pricesD	79	technic Institute of BrooklynJe	76	elastic, cylindrical-conical tank (A)	80
Gas turbine heat recovery boiler thermo- dynamics, economics and evaluation (A)		Research fellowship for fluidsO Save education \$\$	104	Numerical comparisons in elastic-plastic	60
Ag	68	Teamwork and understanding: keys to na-		torsion, On (A)Je	65
Looking ahead in nuclear powerAg	30	tional progressAg	14	Plane waves due to combined compressive	
Natural gas - supply and economics		Undergraduate engineering laboratory in-	0.0	and shear stresses in a half space (A)	80
Oxygen dynamics and economics growth	69	structionMr Engineering method (C)Je	36 73	Pulsatile flow behavior in elastic systems	80
in the Millstone River (A)S	80	Wanted: retired engineers	***	containing wave reflection sites (A)	
Prometheus unboundN	28	To teach or be trained for challenging		Je	64
Thermoeconomics and the design of heat		careers in engineering educationJe	75	Shallow arches on elastic foundations sub-	
systems (A)D	58	Western Electric Fund award for excell- ence in instruction of engineering stu-		jected to dynamical loads, On the final states of (A)Je	66
Fooling the wage earner (C)Jl	73	dents. See Honors		Temperature transition from linear elas-	-
Economic truths (C)0	93	EDWARDS, D. K.		tic to gross strain fracture conditions,	
ID card based on hand geometryAg	51	Cellular solar collectors, Design considera-		Dynamic tear test definition of the (A)	69
Management planning to avoid technolog-		tions for (A)Mr	66	Transient excitation of an elastic half	63
ical obsolescence of engineering and scientific personnel (A)Ap	56	EDWARDS, E. G.		space by a point load traveling on the	
New England "burns"Je	85	Development of a pneumatic sensor for measuring the torque of instrument ball		surface (A)N	75
No solution (C)Ag	75	bearings (A)0	84	Traveling loads in a cylindrical bore, Re-	
1969 U.S. industrial economy, The: the		EEL		sponse of an infinite elastic medium to (A)	83
year with the unknown influencesMr Salaries vs. cost of livingJl	80 82	Nuclear EEL, TheN	23	Unbonded contact between plates and an	-
Sea GulliverMy	123	Nuclear EEL, The: a new concept in ocean freight transportation (A)Je	58	elastic half space, On the (A)	82
Teamwork and understanding: keys to na-		EHLERT, JAMES	00	Vibrations of an elastic layer, An asymp-	81
tional progressAg	14	Electrotorque static control for d-c motors		totic method to analyze the (A)O Vibratory motion of a body on an elastic	91
Unification of engineering economy: the need and a suggested approach (A)		(A)D	54	half plane (A)Je	67
Ар	56	EHRICH, F.F.		ELASTOHYDRODYNAMICS	
Eddy, B. J.		Dynamic stability of rotor/stator radial		Elastohydrodynamic film thickness in an	
STAKRAKE-new concept in bulk mate-	-	rubs in rotating machinery, The (A)	66	elliptical contact, A numerical solution	87
rials handling (A)D	57	EHRLICH, S.	00	of the (A)0 Elastohydrodynamic lubrication of a spin-	0.
EDENBURN, MICHAEL W. Receives Sylvia W. Farny scholarship		Direct contact heat transferring fluidized		ning ball in a nonconforming groove	
award of ASME Woman's Auxiliary		bed boiler, Status of the (A)F	60	(A)0	85
F	76	EILERS, G. J.		Elastohydrodynamic lubrication of roller	65
Edison Electric Institute		Intact skin transformer for artificial		bearings (A)	00
EEI expands researchAg		hearts (A)My	106	tween two cylinders in normal ap-	
45th semi-annual electric power survey Power forecast for 1974N		EISENHOWER, DWIGHT DAVID		proach (A)D	64
EDITORIALS	**	ObituaryJe	104	Elastohydrodynamic theory of spherical bodies in normal approach (A)0	86
Art of doing, TheF	19	Eisenstadt, R.		ELASTOPLASTICITY	00
Coming: a new breed of engineerD		Generation of crack propagation data on		Effect of temperature gradients on the	
Deferment for graduate studentsS Impact on the environmentN		notched rotating beam specimens by means of an interrupted stressing tech-		propagation of elastoplastic waves (A)	
"Just kids"		nique (A)F		Je	65
Keeping technology human0		Eiss, N. S., Jr.		Elbows Turning vanes in a square conduit elbow,	
Metric gambit, TheMy		Fretting corrosion of unlubricated instru-		Performance of (A)	73
Metric — there and here (C)Jl MHD: the road aheadAg		ment ball bearings in a controlled en-		ELECTRIC UTILITIES	
Moon mission completed—and recordedO	25	vironment (A)0	84	Mitigating hydrogen damage and liquid	
Nine commandments, TheAp	17	EKLUND, P. R.		phase corrosion in an electrical utility	
Commandments, The (C)		Elastic contact of a hollow ball with a flat plate, Analysis of the (A)		steam generator, Case study in (A)	
Proposed: more ASME authorsMr Summing upJa		EKONG, I. E.		Power at — 452 F	66
Target: the moonJe		Dynamics of continuous multimass rotor		ELECTRIC UTILITY INDUSTRY	90
Underground line, The (C)Mr		systems (A)Ag		EEI expands researchAg	R
EDLING, W.		ELASTICITY		Electric utility industry, The: progress	-
Changing support role of the technician		Bonded elastic mounts under combined		and prospects0	31
in engineering (A)	74	loading of shear and normal forces (A)		First nuclear station0	71
ASEE to study engineering technology		Contact stress between two-dimensional		45th semi-annual electric power survey Power forecast for 1974N	4
educationN		finite elastic bodies (A)N		Power-demand computer	51

ELECTRIC UTILITY INDUSTRY (Continued)		EMERSON, P. D.		ENERGY, NUCLEAR	
Power systems: the place of hydro and		Techniques for measurement of winding		"A" eye aids space linkupMy	85
pumped storage	24	tension in ring twisting (A)S	76	Machine's "solar flare" key to H-reactor	40
Underground line, The (C)Mr	75	EMERY, A. F.		ENERGY, SOLAR See SOLAR ENERGY	42
Electric heatingD	70	Free convection through vertical plane layers — moderate and high Prandtl			
Electricity from coal: the cycles	19	number fluids (A)My	97	Energy Conversion	
Part 3	24	Green's function for the stress-intensity		Bimetallic emf cell for direct energy con- versionAp	39
Industrial processing with electrical		factors of edge cracks and its applica-		"Direct Energy Conversion" (BR)Ja	49
energy (A)Je Measured pressure waves in water aris-	69	tion to thermal stresses, A (A)F	57	ENERGY CONVERTERS. See ENERGETICS	
ing from electrical discharges and		Separated flow of very thick incompress- ible turbulent boundary layers, An ex-		ENERGY SOURCES	
detonation of small amounts of chemical		perimental study of the (A)Mr	63	EGD takes step forwardF	38
explosives, A comparison between (A)		Stress intensity factors for edge cracks		ENERGY STORAGE. See also ENERGETICS	
JI	69	in rectangular plates with arbitrary		Aircraft steam catapultsMr	42
ELECTROCHEMISTRY		loadings (A)F	57	Improved design, An (C)My High-energy, high-power batteryN	47
Kinematics of electrochemical machining, On the (A)	103	EMERY, J. K. Roundness measurement		"Throwaway" zinc-air batteryS	58
ELECTRODYNAMICS	100	Part 1 — Importance and interrela-		ENERGY TRANSFER	
Electrodynamic oscillating compressors		tionships 0 26; (AC) D	67	Radiative energy transfer in an absorb-	
Part 1 - Design based on linearized		Roundness as related to other meas-		ing and emitting media, An approxi-	
loads (A)	74	urements (A)Ap	52	mate method for multidimensional prob- lems of (A)	71
Part 2 Evaluation of specific de- signs for gas loads (A)	76	Emission. See also Incinerators Nitrogen oxide emission studyJa	54	ENGEL, R. A.	•••
ELECTROGASDYNAMICS		Radiative energy transfer in an absorb-		Vice-president, engineering and research	
EGD coating systemD	42	ing and emitting media, An approxi-		at Fisher Governor Co. since 1944, re-	
EGD takes step forwardF	38	mate method for multidimensional prob-		tires from active administrative matters	
ELECTROLYTICS	1112	lems of (A)N	71	but remains a company director and	103
Electrolytic water sterilizerJe	48	EMMONS, HOWARD Art of doing, The (Ed)F	19	ENGEL, RAYMOND A.	100
ELECTRON BEAMS. See BEAMS, ELECTRON		EMMONS, W. F.	10	Awarded professional achievement citation	
ELECTRONICS	00	Composite materials development for cry-		in engineering by Iowa State Univer-	
Avionic heat pipe, An (A)	66 59	ogenic bearing retainers (A)Ap	53	sity0	126
Electronic "gray matter"	56	EMPLOYMENT		ENGELMAIER, WERNER	
Lockheed donates "big dish" to Pacific	-	By 1970: million engineersJl	82	Metre meter (C)My	110
Union College for radio astronomyJe	76	Hard-core unemployed, Possibilities of on-	80	Engh, T. A.	
Speed hearing0	67	the-job training of the (A)	79	Effect of injected air on the rate of flow of solids (A)	44
ELECTROSTATIC COPIERS. See PHOTO COPIE	RS	Endurance strength and optimum dimen-		Engin, A. E.	**
ELEMENTS Temperature structure and heat transfer		sions of Belleville springs (A)Mr	70	Axisymmetric response of a fluid-filled	
characteristics of an electrically heated		ENERGETICS	100	spherical shell to a local radial im-	
model of a seven-rod cluster fuel ele-		Application of the piezoelectric effect for		pulse - a model for head injury (A)S	77
ment, The (A)My	95	energy converters of the artificial heart		Engineering	
Ellipsoids		program (A)Ap	54	Thesaurus of engineering and scientific	0.7
Buckling of an ellipsoid due to internal	20	Artificial heart program, TheJe	20	Engineering Achievements	87
pressure (A)Mr	68	Electrohydraulic power systems for use in artificial heart and circulatory as-		Engineering achievements, NSPE selec-	
ELLIS, ARTHUR E.	70	sist devices, Development of (A)Ap	55	tions of 1968Ap	74
Metric system (C)N	78	Energy for an inland agro-industrial com-		Engineering Design	
ELLIS, GREER		munity (A)Ap	55	Operations research, decision theory, and	
Becomes vice-president of Vishay Instru- ments, Malvern, Pa., newly created sub-		Energy transmission and energy conver- sion system for artificial heart assist		the changing nature of engineering de-	
sidiary of Vishay Intertechnology, Inc.		devices, An (A)My	106	sign (A)0	79
Му	151	Implantable artificial heart, AnS	20	Technology and society Part 1: Public interest, TheAp	24
Ellison, J. E.		Implantable, Rankine - cycle circulatory		Technology and society: public in-	-
Improving communications with your en-	~~	support system, Design of an (A)Ap	54	terest - first priority in engineer-	
gineers — a case study (A)S	67	Intact skin transformer for artificial hearts (A)My	106	ing design (A)My	107
ELROD, H. G., JR.		MHD power generation: current status	200	Engineering Education	
Conditions for the rupture of a lubrica-		Ag	18	Enrollments, fall 1968	85
Part 1: theoretical model (A)D	64	Report by MHD subcommittee of ASME		Engineering Excellence. See also Engineering Achievements	
Dynamics response of a double squeeze-	0.	energetics division (A)My National artificial heart program, TheJe		"Grand conceptor" award	85
film thrust plate (A)D	62	Operating coal-fired, open-cycle MHD sys-	20	Engineering Index	00
Pulsating flows in infinite and finite coni-		tems at low air/fuel ratios (A)My	105	E. I. subscription ratesD	75
cal nozzles, Analysis of (A)	82	Power transfer device for mechanical	1	Engineering Index Annual (1967 edition)	
EL-SAYED, Y. M.		hearts, A (A)Ap	55	Mr	87
Application of the thermoeconomic ap-		Reject heat and radiation from implanted radioisotope sources, Studies of (A)		Engineering Manpower Commission	
proach to the analysis and optimization of a vapor-compression desalting sys-		·	105	Engineers' salariesAg Enrollments, fall 1968Jl	81
tem (A)D	59	Stirling engine module to power circula-		Engineering Profession	01
Thermoeconomics and the design of heat		tory assist devices, A (A)Ap	54	Appeal for engineers (C)F	65
systems (A)D	58	Thermal diffusivities of thermal energy storage materials, The determination		ASME goalsJl 106; O 115; N 90; D	21
ELSTON, W. D.		of:		By 1970: million engineers	82
Gas turbines: a modern approach to in-		Part 2 - Molten salts beyond the melt-		Changing support role of the technician	74
dustrial power plant expansions (A)	62	ing point (A)Ap	55	in engineering (A)S College antecedents of successful engi-	**
EL-WAKIL, M. M.		Thermal transpiration for the develop-		neersJa	53
Porous fuel elements in nuclear reactors.		ment of a new type of gas pump, A study of (A)Ap	55	Addendum (C)Ap	67
On the use of (A)Ap	65	Waste heat dissipation from artificial		Distinguished alumni (C)My	111
Professor of mechanical engineering at		hearts — engineering constraints (A)		Lehigh and Drexel were skipped (C)	67
University of Wisconsin, Madison, Wis.,		Му	105	Rensselaer errata (C)My	111
receives American Society for Engi- neering Education Western Electric		ENERGY		Coming: a new breed of engineer (Ed)D	12
award for excellence in teachingD	95	Ergonomic considerations in undersea	59	Conflicts in engineers' responsibilities	400
ELY, ALLEN J., JR.		systems engineering (A)Je Fossilectric ratio, The (A)F		— personal decision (A)My Elusive professionalism (C)Mr	107
Promoted to vice-president and general		Industrial processing with electrical	01	Engineer-physician cooperationAp	18
manager of Forging Division of Taylor		energy (A)Je	69	Engineer unions on decline	-
Forge, Inc., Chicago, IllJe	99	Mass and velocity error effects on the		Engineer's plight, The (C)Mr	74
Embolisms		performance of hydraulic energy ab-	70	Engineers' salariesAg	81
Literature related to problems of gas em-		Shock load protection through energy ab-	70	He played the game (C)	3:
bolism in human body, Survey of (A)	79	sorption and dissipation methods, De-		More support for engineers (C)Je	7:
EMERGING NATIONS, See DEVELOPING		sign principles for (A)S	72	Mr. Moen's reply (C)Jl	7
Countries		When does the "all-fuel" concept of	20	Society support (C)	9:
COUNTRIES		energy make sense? (A)Je	70	Wanted: society support (C)Ag	70

New breed, A: the engineer-managerD	14	on (A)	68	sidiary of Ex-Cell-O CorpAp	97
Engineer-manager in the nuclear age.	14	ENGINES, RECIPROCATING	00	Erikson, T. A.	•
The (A)	57	Stratified charge, The third cycleMr	29	Migrational properties for the steady	
New NSPE recommendationsJe	84	Stratification amplification (C)Je	72	forced vaporization of water (A)My	98
Nine commandments, The (Ed)Ap	17	ENGINES, STEAM		Erosion	
The commandments (C)	73	Comeback for the Stanley steamer?Ap	44	Resistance against cavitation erosion of	
"Paranoid style, The"S	81 72	Steam versus diesel (C)Mr	76	14 chromium steels (A)D	61
Professionalism (C)	93	Engines, Stirling		ESHEL, A.	
Record program planned for National En-	00	Implantable artificial heart, AnS	20	Controlling the film thickness in self-act-	
gineers WeekD	75	Stirling engine — a new lease on lifeJl	52	ing foil bearings, On (A)D	62
Reflections on a year of serviceJe	71	Stirling engine module to power circula- tory assist devices, A (A)Ap	54	ESHLEMAN, R. L.	
Responsibilities of engineers (A)My	107	ENGINES, TURBINE. See TRACING MACHINES	••	Critical speeds of a continuous rotor, On	67
Salaries vs. cost of living	82	ENGLAND		Dynamics of continuous multimass rotor	01
Technology and society		Advanced passenger trainN	59	systems (A)Ag	67
Part 2 — Social responsibilities, The	01	Deep-hole drillingAg	56	Essenhigh, R. H.	
Toward professionalism (C)F	81 63	Fluorescence crack detectionS	65	Heat value of refuse (C)Ap	68
Undergraduate engineering laboratory in-	00	High-speed punch press0	71	ESTABROOK, F. R., JR.	
structionMr	36	Honing machineS	65	Injection molding of thermosetting mate-	
Engineering method (C)Je	73	New laser applicationsJl	57	rials (A)8	69
Unions-Nat'l FederationAp	75	ENGLEMAN, HELMUTH W.		Estes, R. A.	
Universal comityJa	54	Two types of resonance in intake tuning,		Transition from land to lake operations	
View of engineers	102	The (A)S	75	in I.A.B. field (A)N	61
An unmarried engineer (C)Ag	75	ENGLISH, WALTER M.	100	Esthetics	
Apollo 11 (C)	94	Obituary	100	Power at - 452 F0	66
Engineering Schools		ENGVALL, PER H.	110	Етнісѕ	
Engineering schools show 16 percent de-		ObituaryN	110	Moral considerations of the engineering	
cline in graduate studentsAp	76	ENTHYMAT 3-D drawings from 2-D viewsJe	40	teacher involved in government research	774
Professional status (C)Ag	75		46	(A)	71 81
Future of graduates (C)N	77	ENTRAINMENT		"Paranoid style, The"S Prometheus unboundN	28
Engineering Societies		Entrainment of water by stream of suc- cessive air bubbles, An investigation of		ETTLINGER, C. F.	
All-engineers' societyJe	85	the (A)My	104	Engineering problem of ski safety, The	
Wanted: society support (C)Ag	77	Prediction of turbulent boundary layer		(A)	78
More support for engineers (C)Je	73	growth in adverse pressure gradients,		EUBANKS, R. A.	
Mr. Moen's reply (C)Jl	71	A modified entrainment theory for the		Critical speeds of a continuous rotor, On	
Wanted: society support (C)Ag	92 76	(A)0	76	the (A)Ag	67
Engineering Societies Library	10	Environment		EVANS, FREDERIC C.	•
Current booksJa 49; F 64; Mr 76;		Bruised biosphereN	53	ObituaryF	88
Ap 70; My 112; Je 74; Jl 78; Ag 77;		Cleaner environmentN	84	Evans, L. G.	
S 84; O 95; N 79; D	67	Controlled environment storage facility for nuclear waste containers, A (A)		Coal as an industrial fuel (A)Je	70
Other booksJa 50; Ap 71; My 114;		for nuclear waste containers, A (A)	63	EVANS, R. B.	
Je 74; JI 75; Ag 78; S 85; O 96; N 81;		Environmental effects on pure fluid am-	00	Thermoeconomics and the design of heat	
D	70	plifiers, Investigations of (A)Mr	65	systems (A)D	58
Recent additionsJa 49; F 64; Mr 76;		Fretting corrosion of unlubricated instru-		EVERETT, J. LEE	
Ap 70; My 112; Je 74; J1 74; Ag 77; S 84; O 95; N 78; D	68	ment ball bearings in a controlled en-		Named executive vice-president and mem-	
Engineering Students	98	vironment (A)0	84	ber of board of directors, Philadelphia	
Deferment for graduate students (Ed)S	19	Impact on the environment (Ed)N	17	Electric Co., Philadelphia, PaJe	100
Engineers, Retired	19	Underground line, The (C)Mr	75	EWBANK, W. J.	
Wanted: retired engineers		ENVIRONMENTAL ENGINEERING		One of two recipients of Clarence E.	
To teach or be trained for challenging		Columbia U. grants degrees in environ-	80	Earle memorial award presented at Na-	
carreers in engineering educationJe	75	mental engineeringD	00	tional Lubricating Grease Institute	
ENGINEERS CLUB OF ST. LOUIS, MO.		EPOXY Material characterization results for a		(NLGI) annual meetingMy Excavations	201
Centennial in St. LouisAp	75	selected graphite fiber/epoxy composite		Casing the Aleutian holeN	43
ENGINEERS JOINT COUNCIL		(A)Ag	68	Excitation	-
Engineers' salariesAg	81	EPSTEIN. HOWARD	-	Excitation of an elastic cylindrical shell	
EJC, New directions forJa	18	Effect of airflow on the behavior of foam		by a transient acoustic wave (A)N	76
Reflections on a year of serviceJe	71	as a dynamic element in shock and		Mean-square response of simple mechan-	
Thesaurus of engineering and scientific		vibrations, The (A)Ag	66	ical systems to nonstationary random	
termsJl	87	Epstein, N.		excitation (A)0	
Engineers Society of Western		Two-phase eccentric interface laminar		Stability of continuous dynamic systems	
PENNSYLVANIA		pipeline flow (A)O	74	with parametric excitation (A)0	
Recipient of William Metcalf award is		EQUILIBRIUM		Transient excitation of an elastic half	
John D. HarperAg	104	Non-simple equilibrium aspects in axisym-		space by a point load traveling on the surface (A)N	
C.F. angine inlet development (A)	65	(A)Jl	60	Executives	
C-5 engine inlet development (A)Jl Computerized engine production0	61	EOUIPMENT	00	Corporate presidentsJa	54
Engine inlet on the 747, The (A)Jl	64	Quieter equipment, Guidelines for de-		Engineering executivesJa	
Engine usage indicator, The (A)Jl	68	signing (A)0	79	EXHAUST GASES. See GASES	
Engine vane control (A)Jl	59	ERASLAN, A. H.		EXHAUST EMISSIONS	
Fluidic turbine temperature sensors in gas		Temperature development in the entrance		Smog studyN	51
turbine engines, Feasibility study of		region of an MHD channel. The solu-		EXHAUST SYSTEMS	
(A)	61	tion of, by the B. G. Galerkin method		Massive expansion joints for exhaust	
Introduction to the JT15D, An (A)Jl	69	(A)My	96	piping systemN	
Midget rocketD Titanium castings in gas turbine engines,	41	ERDLAC, R. J.		Exhibits	
The potential of (A)	62	Built-in ends of beams and plates, Local		ASME energy systems exposition, plans	1
Engines, Aircraft		flexibility coefficients for the (A)Mr	67	under way for 4th (1970)N	98
High bypass ratio compound fan-shaft en-		ERDMANN, O.		Design engineering show, 1969	
gines for convertible rotary wing air-		Gas turbine - reciprocating compressor	**	ExhibitorsAp 30; JI	
craft (A)Jl	58	drive, Dynamic analysis of a (A)F	59	ProductsAp 34; Jl Energy systems exposition at	92
Engines, Diesel		ERGONOMICS		1970 Winter Annual MeetingN	98
Steam versus diesel (C)Mr	76	Ergonomic considerations in undersea sys-	F0.	1968 Winter Annual MeetingJa	
Engines, Internal Combustion		tems engineering (A)Je	59	Monorail for Expo '70Je	57
Overall fuel economy of an internal com-		ERICKSON, B. G.		Museum of Modern Art catalog of exhibit	t
bustion engine, An index to character-		Large diesel engine, The - its role	75	on The Machine as Seen at the End of	
ize the (A)Ap	58	in automated pipelines (A)S	75	the Mechanical AgeMy	127
Engines, Jet		ERICKSON, H. M.		EXLEY, JOHN T.	
Controlling future jet enginesF	28	Fluidic realization of threshold logic (A)	es.	Flow separation and reattachment in con-	
Diffusion bonding Ti-6Al-4V for jet en-	-	C	65	fined jet mixing (A)0	72
gine applications (A)	67	ERICKSON, VIRGIL		EXLINE, WILLIAM C.	
Experimental "quiet engine"Mr	56	Appointed chief engineer of Bryant		Elected ASME FellowAr	99

Expansion		FARADAY MEDAL		FENSTERMAKER, R.	
Bounded expansions of supersonic flows		Institution of Electrical Engineers of		Tomorrow's technology: the management	
(A)N	69	England awards 1969 medal to Philip	**	outlook (A)Ap	56
Local heat transfer downstream of ab- rupt circular channel expansion (A)N	70	SpornJe	99	FENTON, EDWARD A.	
Massive expansion joints for exhaust	72	FARELLO, G. E.		Appointed executive director of American	
piping systemN	50	Bubble flow up to the critical pressure		Welding Society, New York, N. YN	107
Thermal expansion of the workpiece dur-	••	(A)	87	FERGUSON, DONALD MCHARDY	
ing turning (A)My	102	FASTENERS. See also SEALS		Elected ASME FellowJe	100
EXPERIMENTATION		Adhesives for threaded fasteners (A)S	70	FERGUSON, EUGENE S.	
Undergraduate engineering laboratory		Boydbolt simple-release fastenerMy	87 72	Receives joint appointments as scholar	
instructionMr	36	Fatigue resistant fastener (A)S Long-lived jointS	52	in technological history, University of	
Engineering method (C)Je	73	FATIGUE	02	Delaware, Newark, Del., and curator of	
Exploration		Effect of creep in low-cycle fatigue of		technology at Hagley MuseumO	120
"Ben Franklin" emerges from Gulf		pressure vessels steel (A)Ag	71	FERNANDES, JOHN H.	
Stream0		Effect of mean stress and of mean strain	- 1	Appointed general manager of Combus-	
Challengers of the silent depthsMy	75	in low-cycle fatigue of A-517 and A-201		tion Engineering, Inc., Raymond Divi-	99
Explosions		steels (A)Ag	71	sion, Chicago, IllJe	00
Cryogenic explosion formingN	55	Effect of residual stresses on the low		FERRARI, G.	
Measured pressure waves in water arising		cycle fatigue life of large scale weld-		Bubble flow up to the critical pressure	97
from electrical discharges and detona- tion of small amounts of chemical explo-		ments in high strength steel (A)D	60	(A)0	61
sives, A comparison between (A)Jl	69	Effects of coatings, containing spatially stabilized polar liquids, on stress corro-		FERRER, MIGUEL R.	100
Explosives	00	sion and fatigue resistance on metals		ObituaryAp	102
Bonding materials — explosive bonding		(A)Ag	69	Fertig, John L.	
(A)	70	Fatigue behavior of titanium castings		ObituaryJe	103
EXPOSITIONS. See EXHIBITS: MEETINGS	10	(A)Jl	62	ГЕТТ, G. H.	
The state of the s		Fatigue damage accumulation, A general	-	Representation of pump-turbine character-	
Extruders.		theory of (A)	57	istics (A)0	76
Flow of a melted plastic through a screw extruder, Prediction of (A)F	20	Fatigue failures induced in heat exchanger		FIBER SOCIETY	
	40	tubes by vortex shedding (A)N Fatigue resistant fastener (A)S	60 72	Distinguished achievement award pre-	
Extrusion		Load ratings and fatigue life prediction	12	sented to W. Denney Freeston, Jr O	126
Lubricated direct-extrusion process of high-strength and high-melting-point		for ball and roller bearings (A)O	85	FIBERGLASS	
materials, with isothermal surface of		Low-cycle fatigue behavior under biaxial		Moistureproof skiJa	36
die and container, A study of (A)D	63	strain distribution (A)F	58	Fibers	
EZZAT, H.	-	Post-irradiation fatigue properties of base		Fiber-reinforced superalloyJe 49; Ag	46
Hydrodynamic journal bearings, Optimum		metals and weldments (A)Ag	71	Flame-resistant fiberAg	
design of (A)Ap	53	Rating life of a linear motion assembly		Flare inspection instrumentN	
design of (A)Ap	00	(A)	84	Material characterization results for a se-	
		ual stress (A)O	86	lected graphite fiber/epoxy composite	
		Selecting materials to resist low cycle	90	(A)Ag	
10000		fatigue (A)	68	Producing conical fiber optical components	54
		Simplified welded specimen for evaluation	-	Tensile fracture of parallel fiber com-	
Contract to the contract to th		of low-cycle fatigue under compression		posites, A statistical model for the (A)	
FAGG, G. A., III		(A)D	60	Ар	66
Motor controls — past and present (A)		Use of tapered double-cantilever-beam		FIDELLE, T. P., JR.	
D	54	specimens for fatigue crack growth studies (A)Ag	71	Semi-discrete approximate solution of the	
FAHLMAN, G. H.			11	inverse problem of transient heat con-	
Makai undersea test range (A)F	54	FAUST, DELBERT G.	100	duction, A (A)My	
ГАНУ , Г . J .		Elected ASME FellowJa	100	FIELD, J. H.	
Vibration of containing structures by	***	FAUST, S. D.		Alkalized alumina system for SO: re-	
sound in the contained fluid (A)Ag	58	Phenolic compounds in New Jersey's		moval, The: design and operation of a	
FAILURE		streams, Occurrence and distribution of	80	continuous pilot plant (A)F	60
Corrosion failures of spacecraft hardware	70	FEDERAL AVIATION ADMINISTRATION	80	FIELD, M.	
Failure behavior in axially flawed ASTM	10	FAA near-miss programMy	100	Computerized determination and analysis	
A106B pipes (A)D	59	The state of the s	120	of cost and production rates for ma- chining operations:	
Tensile failure of viscoelastic materials		FEDERICI, FRANK	440	Part 2 — Milling, drilling, reaming	
under multiaxial loading, Description		ObituaryN	110	and tapping (A)My	
of (A)Ap	66	FEEDERS		FILAMENTS	
Use of acoustic emission to study failure	-	Screw conveyers and feeders, A study of		Elastic filament reinforcement of a vis-	
mechanisms in metal (A)Ag	70	factors affecting the performance of (A)Ja	43	coelastic cylinder, On (A)N	
FAIRES, VIRGIL M.		FEHER CYCLE	40	FILETTI, E. G.	
ObituaryN	110	Mechanical design of a 10-Kw Feher cycle		Influence of structural support upon roll-	
FAIRS. See EXHIBITS		turbo-alternator, The (A)Jl	68	ing element bearing performance, A	
FALKENBERRY, H. L.		FEHR, R. B.	-	general method for predicting the (A)	
Sulfur-dioxide removal from power plant		Receives ASME 55-year membership cer-		0	84
stack gas by limestone injection plant-	**	tificateN	108	FILLMAN, CHARLES W.	
scale tests at TVA (A)D	58	FEHR, T. D.		ObituaryS	110
FALLA, FERNANDO		Predictive logic control of an on-off sys-		Films	
ObituaryN	110	tem with one simple sensor (A)Ap	60	Conditions for the rupture of a lubrication	ı
FALLENSTEIN, G. T.		FEIEREISEN, W. J.		film Post 1: theoretical model (A)	
Dynamic mechanical properties of human	-	Estimating the combined performance of		Part 1: theoretical model (A)	
brain tissue (A)S	77	a turbine and exhaust diffuser, A		ing foil bearings, On (A)	
FALLS, ROBERT EARL		method for (A)My	103	Development of polybenzimidazole bonded	
ObituaryMy	154	FEIT, A. E.		solid-film lubricants (A)D	61
FALOWIN, L. S.		Knock suppressor for large gas engines	34	Dynamics response of a double squeeze-	
Heat pipe channel flow distributions (A)	-	(A)S	75	film thrust plate (A)	
N	66	FELDMAN, LEWIS		Effect of gamma radiation in vacuum or	
FANNELOP, T. K.		Metric feet (C)Ja	48	(A)	
Three-dimensional boundary-layer flow		FELDMANN, H. F.		Elastohydrodynamic film thickness in ar	
about an ablating slender cone (A)O	76	Operating coal-fired, open-cycle MHD sys-		elliptical contact, A numerical solution	
FANS		tems at low air/fuel ratios (A)My	105	of the (A)0	8
Discrete frequency noise generation from				Elastohydrodynamic squeeze films between	
an axial flow fan blade row (A)0	76	FELKER, GEORGE F.	110	two cylinders in normal approach (A)	
Fan/compressor noise reduction (A)Il High bypass ratio compound fan-shaft		ObituaryN	110	Influence of inertia forces in turbulen	
engines for convertible rotary wing air-		FELLOWSHIPS. See GRANTS, STUDY		and laminar self-acting films, On the	
craft (A)		FELTNER, C. E.		(A)	
New fan reduces turbofan engine weight		Selecting materials to resist low cycle		Predicting the oil film thickness in hydro	-
Ар	43	fatigue (A)S	68	dynamically lubricated gears (A)A	p 5

Slip ratios and film roughness in annular,		pressurized gas-lubricated journal bear-		pension flows (A)	68
viscous-turbulent, two-phase flow (A)	79	ings (A)D	60	Heat transfer to mercury flowing in line through an unbaffled rod bundle: ex-	
Squeeze film between rotating annuli, An investigation of the (A)	78 64	FLEMING, DAVID P. Flow in the hydrodynamic entrance region		perimental study of the effect of rod displacement on rod-average heat trans-	
Transition from film to nucleate boiling in vertical forced flow (A)N	68	of ducts of arbitrary cross section (A)	72	fer coefficients (A)Je Impairment of turbulent convection heat	61
Wear equation for bonded solid lubricant films, A: estimating film wear life (A)	64	FLEXIBILITY Comparison of flexible- and firm-founda- tion rotor critical-speed analyses (A)		transfer at supercritical pressures at forced flow of fluid in the vertical channels, To the question of the (A)N	65
FILTERS AND FILTRATION			67	Incompressible flow in short vortex cham-	
Correlation of hydraulic component con- tamination tolerances with filtration		Flexing mower blade	73	bers, An analytical model for the (A) Je Induced flow in a pulsejet ejector with	63
capabilities (A)	70	FLINT, CHARLES K.	110	experimental verification, A mathe- matical model for the prediction of the	
Ap	52		110	(A)Mr	62
Flow and filtration characteristics of wire cloth (A)My	104	FLOOD, LEO P. (reviewer) "Air Pollution" (BR)	73	Influence of inlet geometry on flow in the entrance region of a nuclear re-	
Optimum filtration level, Determining the	72	"Industrial Waste Disposal" (BR)Jl "Principles and Practices of Incineration"	73	actor rod bundle (A)My Intense acoustic fields and viscous fluid	97
FINANCING	-	(BR)D	67	flows, On the interaction of (A)F Laminar wake behind a finite flat plate,	62
Lease financing, The functions of (A)	70	FLOODING Pressure-suppression/gravity-flooding		A numerical solution for the (A)Je	66
FINDLEY, W. N. Behavior of nonlinear viscoelastic material	1	containment system (A)Ap	63	Laminarization of a turbulent pipe flow by buoyancy forces (A)N	66
under simultaneous stress relaxation in		Thermal response of a reactor fuel as- sembly cooled by flooding under loss-	***	Laminarization of turbulent flow in a circular porous tube with uniform mass	
tension and creep in torsion (A)Je Fink, Kenneth M.	67	of-normal-coolant conditions (A)Ap FLORES, B.	62	injection through the tube wall (A)N Lateral motion of individual particles in	67
ObituaryS FINKIN, E, F.	116	Balancing criteria and their relationship to current American practice (A)Ag	07	channel flow - effect of diffusion	
Multiple-disk brakes and clutches during		FLOTATION	67	and interaction forces Part 1 — particle behavior as a func-	
engagement, The interfacial load distri- bution and total transmitted torque of		Motion response and design of an under- water flotation mechanism (A)Jl	70	tion of systematic motion (A)N Linear dynamic modeling of flowing fluid	66
(A)Mr	70	FLOW. See also BIOMECHANICS AND	10	lines (A)0	77
Wear equation for bonded solid lubricant films, A estimating film wear life (A)		HUMAN FACTORS		Linearized wave propagation models for arterial blood flow analysis, Comparison	
D	64	FLOW		of (A)	78 62
FINLAND 50,000-kw gas turbine plant	65	Annular two-phase flow		Low density nozzle flow (A)F Model tests of material flow through	40
FINS	99	Part I: A simple theory (A)O Part II: Additional effects (A)O	73 74	dredge cutters and suction piping (A)	56
Aerodynamic stability of a cross-flow type finned tube heat exchanger, An investi- gation of the (A)My	98	Boundary-layer velocity distribution in turbulent swirling pipe flow, The (A)	72	Non-simple equilibrium aspects in axisym- metric turbomachine flow theory, Some	
Optimum arrangement of rectangular fins	50	Bounded expansions of supersonic flows		Oscillating rectilinear fluid flow generator	60
on horizontal surfaces for free-convec- tion heat transfer (A)N	70	(A)	69	(A)Je Peristaltic transport (A)Je	67 67
Radiation heat transfer annular fins of trapezoidal profile (A)N	68	(A)O Choking and shock phenomena in a single-	87	Predicting gas flow rates in vacuum sys-	
Fire in gas turbine heat exchangers, The		component two-phase flow including vibrational effects (A)N	68	Present state of the art of flow measure-	60
potential danger of (A)Jl	64	Combined free and forced convection for fully developed laminar flow in horizon-		ment in the power industry (A)My	107
Flame-resistant fiberAg Integrity of irradiated fuel shipping con-	45	tal tubes, Analysis of (A)N	71	Pressure field in a cavitating flow, An analytical investigation of the (A)O	74
tainers subject to hypothetical fire ac- cident (A)	62	Detecting atomic flow	54	Progressive waves moving through a cir-	
FIRE-FIGHTING EQUIPMENT	02	an axial flow fan blade row (A)0	76	cular pipe containing a rotating flow of water with an axial cavity (A)O	73
Thermal protective visorJa FIRTH, B. W.	30	Dynamic programming approach to stabil- ize forced-convection two-phase flow		Progressive waves on swirling cavity flow	-
Reading list (C)	48	systems with "pressure-drop" oscilla- tions, A (A)	70	in a circular pipe (A)O Pulsatile flow behavior in elastic systems	73
FISHER, LYMAN C.		Effect of thermocapillary flow on heat transfer in dropwise condensation, The		containing wave reflection sites (A)Je	64
Named special assistant to associate tech- nical director for underwater weapons		(A)N	71	Resistance of an inclined plate placed on a plane boundary in two-dimensional	
development of U. S. Naval Ordnance Laboratory, White Oak, MdF	85	Effects of curvature on laminar boundary layers in sink-type flows (A)Je	63	flow (A)	
FISHER, WILLIAM J.		Effects of nonuniform inlet velocity pro- files on flow regimes and performance		pressible turbulent boundary layers, An	
ObituaryN	110	in two-dimensional diffusers (A)Mr	62	experimental study of the (A)Mr Shock structure in transversely imping-	63
Fitch, E. C., Jr. Correlation of hydraulic component con-		Effects of orifice plate eccentricity on flow coefficients, Experimental study of		ing jet flows (A)O	79
tamination tolerances with filtration capabilities (A)	70	First approximation for flow through a	62	Simplifying air measuring and balancing	48
FITCH, WILLIAM K.	10	porous tube, A (A)0	73	Simultaneous lateral skewing in a three-	
ObituaryN	110	Flow and filtration characteristics of wire cloth (A)My	104	dimensional turbulent boundary-layer flow (A)O	
FITZSIMMONS, T. E. Hydrostatic seal, The spring supported		Flow and heat transfer in a laminarizing turbulent boundary layer (A)N	68	Slip ratios and film roughness in annu- lar, viscous-turbulent, two-phase flow	
(A)Ap	52	Flow around a sphere at high Reynolds numbers, Experiments on the (A)N	76	(A)0	73
FLAHERTY, FRANKLIN T., JR. Promoted to head of power systems physi-		Flow in the hydrodynamic entrance re-	10	Small-amplitude frequency behavior of fluid lines with turbulent flow (A)O	
cal design at Bell Telephone Labs., Murray Hill, N. J	107	gion of ducts of arbitrary cross sec- tion (A)N	72	Stability of cylindrical bubbles in a verti-	
FLAMES	107	Flow of a melted plastic through a screw		cal pipe (A)0	
Steady flow in the wake of a plane flame,		extruder, Prediction of (A)F Flow separation and reattachment in con-		Steady flow in the wake of a plane flame, Development of (A)	
Development of (A)O		fined jet mixing (A)O Flow stress of 6061 Al alloy composites	72	Strictly sinusoidal flow around a station- ary cylinder (A)	1
Flare inspection instrumentN	46	(A)Mr	72	Thermal entry for low Reynolds number	
FLATNESS Fluid-jet amplifier with flat saturation		Flow through cascades of slotted com- pressor blades (A)	60	turbulent flow (A)F Thermal instability in plane Poiseuille	62
characteristics, A (A)O FLEMING, D. P.		General equations of two-phase systems and their applications to air-water		flow (A)	70
Steady-state experiments on rotating ex-		bubble flow and to steam-water flash- ing flow (A)	72	about an ablating slender cone (A)O	
ternally pressurized air-lubricated jour- nal bearings (A)		Heat pipe channel flow distributions (A)		Transition from film to nucleate boiling	
	0.1	***************************************	66	in vertical forced flow (A)N	68

FLOW (Continued)		Fluidic proportional thruster system for		Estimating the combined performance of a	
Transition from supersonic to subsonic flow at low Reynolds numbers in a tube,		sounding rocket applications, A (A)	64	turbine and exhaust diffuser, A method for (A)My	103
On (A)	82	Fluidic realization of threshold logic (A)	65	Extension of Prandtl's mixing length theory, An (A)	76
nar regime for internal convective flow with large property variations (A)N	40	Fluidic resistorsF Fluidic systems with long lines, Simula-	43	First approximation for flow through a porous tube, A (A)	73
Transition from turbulent to laminar gas	68	tion and design of (A)Ap	59	Flow and filtration characteristics of wire	104
flow in heated pipe, The (A)N Turbulent flow, heat transfer, and mass	69	Fluidic transducerJe 49; O Fluidic turbine temperature sensors in gas	62	cloth (A)My Flow of a melted plastic through a screw	
transfer in a tube with surface suction	71	turbine engines, Feasibility study of (A)	61	extruder, Prediction of (A)F Flow separation and reattachment in con-	62
Turbulent heat transfer at low Reynolds	1	Hazards in pneumatic fluidic circuits (A)		fined jet mixing (A)	72
numbers (A)	73	Hydraulie fluidics (A)Mr	61	propellant lines (A)0	75
moving stream, Some properties of the	68	Inspection and sorting with fluidies (A)	70	Geometrically similar bistable amplifiers, The performance characteristics of (A)	
Two-phase eccentric interface laminar		Linear dynamic modeling of flowing fluid		F	62
pipeline flow (A)0 Unsteady flow and wake near an oscillat-	74	lines (A)O Linearized theory of three-dimensional jet	77	Gibson method of water measurement, Velocity distribution and its effect on	
ing cylinder, The (A)Je Unsteady flow phenomena in rotating	64	mixing with and without walls (A)O Modeling vibration characteristics of a	78	the accuracy of the (A)Je Impairment of turbulent convection heat	64
centrifugal impeller passages (A)Jl	63	fluid drive control mechanism (A)Ag	64	transfer at supercritical pressures at	
Unsteady flows in natural gas piping sys- tems, Analysis and control of (A)F	61	Optical study of a fluidic temperature sensor (A)Mr	63	forced flow of fluid in the vertical chan- nels, To the question of the (A)N	65
Unsteady laminar incompressible boundary layer flows with cylindrical symmetry,		Pressure signal generator for fluidic re- search (A)	79	Improvement of pump performance by im-	72
Numerical investigation of (A)0	74	Response of a fluidic air gauge (A)Je	64	peller eye throttling (A)	12
Velocity profiles and eddy diffusivities for fully developed, turbulent, low Rey-		Shock structure in transversely impinging jet flows (A)	79	bers, An analytical model for the (A)	63
nolds number pipe flow (A)Mr Void fractions in subcooled flow boiling	62	Transients in pneumatic transmission lines subjected to large pressure changes		Induced flow in a pulsejet ejector with	
(A)N	69	(A)0	79	experimental verification, A mathemati- cal model for the prediction of the (A)	
Vorticity and Kutta condition for unsteady multienergy flows (A)	66	Vortex amplifier, Analysis and modeling of the (A)	78	Intense acoustic fields and viscous fluid	62
FLOW METERS		Wall attachment at high Knudsen num- bers: experimental results (A)	78	flows, On the interaction of (A)F	62
Metering the magnetic momentJa Synthesizing mass flow meter for granu-	37	the same of the sa		Jet pump cavitation parameter based on NPSH, A (A)Mr	64
lar materials using momentum equations		FLUIDS ENGINEERING Aerodynamic drag on vehicles in tunnels		Laminar wake behind a finite flat plate,	
of variable mass systems (A)Ja	43	(A)	75	A numerical solution for the (A)Je Linear dynamic modeling of flowing fluid	66
FLOW OF SOLIDS. See SOLIDS FLUE GASES. See GASES		laminar flow with heat transfer and		lines (A)	
FLÜGGE, WILHELM		variable fluid properties in a rotating tube (A)F	59	perimental investigation of several (A)	
Elected ASME FellowJl	120	Analyzing the turbulent boundary layer with arbitrary pressure gradient, A new		Low density nozzle flow (A)F	
FLÜGGE-LOTZ, I.		integral method for (A)Je	63	Measurement of rotating machinery vibra-	
Laminar wake behind a finite flat plate, A numerical solution for the (A)Je	66	Annular two-phase flow Part I: A simple theory (A)O	73	tion and factors affecting instrument accuracy (A)My	103
FLUID DYNAMICS		Part II: Additional effects (A)0	74	Measuring static charge density in a flow- ing fluid, A system for (A)N	
Geophysical fluid dynamicsD	81	Axisymmetric response of a fluid-filled spherical shell to a local radial im-		Oil-free linear-motor resonant-piston com-	
FLUID MECHANICS. See also Acoustics;		pulse — a model for head injury (A)S Boundary-layer velocity distribution in	77	pressors, Recent developments of (A)	
GASES; Nozzles Incompressible turbulent swirling flow in		turbulent swirling pipe flow, The (A)		One-way air chambers for pumping plants (A)F	
stationary ducts, Analytical investiga-		Calculating the head developed by an im-	72	Optimal design of staged jet-pump sys-	
Pulsating flows in infinite and finite coni-	82	peller with a finite number of blades,		tems (A)My Oscillating rectilinear fluid flow genera-	104
cal nozzles, Analysis of (A)O Transition from supersonic to subsonic	82	Approximate method for (A)	72	tor (A)Je Performance of curved entrance 3 in. x	
flow at low Reynolds numbers in a tube,	-	(A)Ö	72	1/2 in. venturimeters (A)Mr	64
On (A)O Turbulent, compressible free shear layers,	82	Cavitation tests on hydrofoils designed for accelerating flow cascade:		Performance of pressure exchangers, An approximate method for predicting the	
Initial development of (A)Je Unsteady motion of a sphere along a cir-		Report 4—Three profiles designed for high head Kaplan turbine (A)F	61	(A) Mr Performance of two annular diffusers. The	63
cular path in a viscous fluid (A)Je	65	Coanda curved wall attachment device, A	01	effect of inlet conditions on the (A)	
Unsteady pressure differential in a capil- lary-tube gas viscosimeter, Approximate		theoretical and experimental study of a	62	Peristaltic transport (A)Je	63
correction for (A)0	83	Compressor or pump stage for minimum		Prediction of turbulent boundary layer growth in adverse pressure gradients,	
Fluid Meters Effects of orifice plate eccentricity on		fluctuating lift, The quasi-steady de- sign of a (A)Je	64	A modified entrainment theory for the	
flow coefficients, Experimental study		Conical diffuser/exit duct combinations,	es	Pressure-exchanger dividers and equal-	
of the (A)Je Errors in sonic nozzle mass flow measure-		Theory and performance of (A)Mr Critical submergence for vortexing in a	65	izers, The performance of (A)Mr Pressure field in a cavitating flow, Ar	
ments at high supply pressures and moderate temperatures due to real gas		vertical cylindrical tank, Experimental investigation of (A)	76	analytical investigation on the (A) (74
effects (A)Je	62	Discrete frequency noise generation from		Pressure transients in hydraulic pipeline (A)	F 61
Pressure measurements at surface and throat of a pipe orifice, Some (A)Je	62	an axial flow fan blade row (A)0 Effect of compressibility on the perform-	76	Progressive waves moving through a cir- cular pipe containing a rotating flow	
Venturi meter with separable diffuser (A)		ance of a screw pump (A)Mr		of water with an axial cavity (A)(73
Fluttics		Effects of curvature on laminar boundary layers in sink-type flows (A)		Pulsatile flow behavior in elastic system containing wave reflection sites (A))
Compressible laminar wall jet with arbi-		Effects of nonuniform inlet velocity pro-		Reduction of noise and vibrations in	
trary wall temperature, Similarity analysis of (A)	77	files on flow regimes and performance in two-dimensional diffusers (A)Mr		hydraulic turbine (A)	75
Confined vortex oscillator, A theoretical and experimental investigation of a (A)		Electrodynamic oscillating compressors Part 1—Design based on linearized		Representation of pump-turbine character istics (A)	0 76
Density effects on fluidic feedback oscil	77	loads (A)0	74	Resistance of an inclined plate placed of	0 104
lators (A)	78	Part 2—Evaluation of specific designs for gas loads (A)		a plane boundary in two-dimensions	d
Design of a fluidic direct impact modu- lator (A)		Entrainment of water by stream of suc-	0	flow (A)	d
Pluidic compressor bleed control, A (A))	cessive air bubbles, An investigation of the (A)		for pumping operation of (A)	
Fluidic overspeed sensor for a power tur	-	Environmental effects on pure fluid ampli-		sible turbulent boundary layers, An ex	K -
bine (A)	1 62	fiers, Investigation of (A)Mi	65	perimental study of the (A)M	ir 63

LUIDS ENGINEERING (Continued)		FOSDICK, WILLIAM P.	100	President antificate of appreciation for	
Simultaneous lateral skewing in a three-		Obituary	102	Receives certificate of appreciation for work on ASME Boiler and Pressure	
dimensional turbulent boundary-layer		FOSHOLT, SANFORD K.	00		108
	76	Elected ASME FellowAp	99	FREESE, C. E.	
Slip ratios and film roughness in annular, viscous-turbulent, two-phase flow (A)		FOSSILECTRIC RATIO	61	Field assembly and erection of heavy-wall	
	73	Fossilectric ratio, The (A)F	0.	hydrocracking reactors (A)Mr	68
Small-amplitude frequency behavior of		FOSTER-PEGG, R. W. Gas turbine heat recovery boiler thermody-		FREESTON, W. DENNEY, JR.	
	76	namics, economics and evaluation (A)		Receives distinguished achievement award	
Stagnation pressure losses of compres-		Ag	68	of Fiber Society	126
sible fluids through abrupt area changes		FOSTH, D. C.		Freezing	
neglecting friction at the walls (A)Mr Steady flow in the wake of a plane flame,	65	Predictive logic control of an on-off sys-		Food fast frozen with "Freon" freezant	
	73	tem with one simple sensor (A)Ap	60	JI	51
Straight channel diffuser performance at		FOUGERE, LOUIS F.		FREIGHT	
high inlet Mach numbers (A)Je	63	Design and application considerations ef-		Nuclear EEL, TheN	23
Strictly sinusoidal flow around a station-		fecting industrial gas turbine mainte-	e0	Nuclear EEL, The: a new concept in	58
ary cylinder (A)0	73	nance (A)Ag	68	ocean freight transportation (A)Je	98
Synthesis of a pure-fluidic temperature		FOUNDATIONS		FRENEAU, PHILIP	
Control system (A)My Theory of distributed systems (A)O	104 76	Foundations and mountings for recipro- cating machinery, Design of (A)S	75		100
Thermal entry for low Reynolds number	10		10	FREQUENCY	
turbulent flow (A)F	62	FOWLER, J. H. Diverters for T.F.L. tools (A)N	60	Small-amplitude frequency behavior of	
Thermodynamic effects on desinent cavita-	-	Fox, WILLIAM G.	00	fluid lines with turbulent flow (A)O	76
tion on hemispherical nosed bodies in		Promoted to manager, corporate engineer-		FRETTING	
water at temperatures from 80 to 260		ing, Foxboro Co., Foxboro, MassD	96	Fretting corrosion of unlubricated ball	
deg F (A)	74	FRACTURE		bearings in a controlled environment	84
Three-dimensional boundary-layer flow about an ablating slender cone (A)O	70	Alloy steel dynamic strain-aging and		(A)0	04
Turning vanes in a square conduit elbow.	76	notch brittle fracture (A)F	58	FREUDENSTEIN, F.	
Performance of (A)	73	Anisotropic plate steel, Neck-and-split		Spatial motion 1—point paths of mecha-	45
Two-phase eccentric interface laminar		tensile fracture of (A)F	56	nisms with four or fewer links (A)Ja	40
pipeline flow (A)0	74	Biaxial fracture criterion for porous brittle	71	FREULER, JON H.	100
Unsteady flow and wake near an oscillat-		materials, A (A)Mr Deformation and fracture of steel from	71	ObituaryAg	108
ing cylinder, The (A)Je Unsteady flows in natural gas piping sys-	64	the examination of the behavior of		FREUND, C. J.	
tems, Analysis and control of (A)F	61	thick-walled cylinders submitted to high		Information + intuition = decision0	31
Unsteady laminar incompressible boundary	01	pressures, Study of the (A)Mr	58	FREUND, GEORGE N.	
layer flows with cylindrical symmetry.		Double-notch creep rupture of 5 Cr-0.5		Named supervisor, automotive applications	
Numerical investigation of (A)0	74	Mo steels (A)	57	development for Allied Chemical's plas-	126
Velocity fields in eccentric annuli, On		Fracture initiation in low strength steel	80	tics division, Detroit, Mich	140
the (A)Mr	62	pressure vessels (A)D Fracture of notched polymethyl methacry-	59	FREWER, GERALD C.	**
Velocity profiles and eddy diffusivities for		late rings loaded in diametral compres-		Challengers of the silent depthsMy	75
fully developed, turbulent, low Reynolds number pipe flow (A)Mr	62	sion, Some observations on (A)D	59	KCS: Spaceport for the moon Part 1: Challenge and the means, The	
Water drag effects of flow induced cable	02	Fracture toughness of irradiated and un-		Jane 1. Chancenge and the means, I	11
vibrations (A)Mr	65	irradiated heavy section pressure vessel		Part 2: Building a gargantuan as-	
Water-hammer attenuation with a tapered		material (A)Je	63	sembly lineJl	
line (A)F	61	Selecting metals for fracture toughness (A)S	67	Part 3: Gentle mammoth, TheAg	
Water jet pumps, Optimum design of (A)		Temperature transition from linear elastic	01	Part 4: Springboard to spaceS	
Yards Creek pumped storage project, Ex-	64	to gross strain fracture conditions, Dy-		Part 5: Loosening the terrestrial bonds	
periences on startup and trial operation		namic tear test definition of the (A)		Moon mission completed—and recorded	
at (A)Je	64	Je	63	(Ed)	
FLUORESCENCE	-	Tensile fracture of parallel fiber com-		FREY, J. R.	
Fluorescence crack detectionS	65	posites, A statistical model for the (A)		Density effects on fluidic feedback oscil-	
FOAM	-	Vibrations and fractures in the machining		lators (A)0	
Effect of airflow on the behavior of foam		of plastics (A)Ap		FREYLER, JOHN W.	
as a dynamic element in shock and vi-		FRANCE	-	Promoted to sales manager of newly	
brations, The (A)Ag	66	High energy green lightAg	56	formed technology/aerospace unit of	
Syntactic foams, The static strength of		Jet flap rotorS		Technology Inc., Dayton, OhioAp	98
(A)D	66	New nickel company		FRIBERG, EMIL E.	
FOLSOM, NOEL J.		Nuclear control instrumentsAg		Named a principal in firm of Cowan, Love	
Elected vice-president of textile group,		Track condition: fastAp	51	& Jackson, Inc., Fort Worth, TexN	108
Hayes-Albion Corp., Jackson, MichO	126	FRANCE, A. WARD	100	Friction	
FOOD INDUSTRY		FRANCIS, JACK T.	100	Effects of axial vibrations on frictional	
Food fast frozen with "Freon" freezant	-	Appointed national sales engineer special-		losses in gear systems (A)	
Revised federal standards and procedures	51	izing in air pollution control systems		Friction-induced heating in axially loaded	
for equipment acceptance in meat and		at Standard Steel Corp., Los Angeles,		Influence of surface roughness on the	
poultry plants (A)S	68	Calif., a subsidiary of Allis-Chalmers		mechanism of friction, The (A)	
Revisions in state laws (A)S	72		114	Rolling friction	
Spaghetti-flavored bacteria for Martian		FRANCIS, P. H.		IV-Additional car wheel experiments	
tripMy	84	Effect of temperature gradients on the		(A)) 80
Force		propagation of elastoplastic waves (A)		Thermal behavior and friction in journal bearings (A)	6
Force distribution on lower partial den-		Stresses near an oblique elliptical aper-		Thermodynamics, adhesion, and sliding	
tures with symmetric saddles, Theoret- ical analysis of (A)S	mm	ture in a large plate, On the (A)Mr		friction (A)	
Side-force problem for shallow helicoidal	77	FRANKE, M. E.		FRIEHE, C. A.	
shells, The (A)0	82	Effect of vortices induced by corona dis-		Deviations from the cosine law for yawed	d
Thoracic force-deflection studies in pri-		charge on free-convection heat trans-		cylindrical anemometer sensors (A)Je	e 6
mates (A)S	78	fer from a vertical plate (A)My	96	FRITTS, DONALD M.	
FOREIGN AREA FELLOWSHIP PROGRAM		FRANKEL, J. I.	100	Senior vice-president retires after 32 years	8
Fellowships for researchS	93	Incineration of process wastes (A)My FRANKLIN INSTITUTE	108	of manufacturing leadership within Tay	-
FORGING		Levy, Louis E., medal goes to Dean Kar-		lor Forge, Inc., of Gulf and Western Co.	**
Automatic forgingAg	49	nopp		Chicago, IllMy	, 15
Forged impressionD	41	FRANKS. FREDERICK B.	201	FRITZ, JOHN, MEDAL	
Isothermal forgingD	47	Obituary	199	1970 recipient is Glenn B. Warren) 12
Massive rotorN	52		220	FRYER, Ross L.	
Squeeze castingN		Fraser, W. B. Buckling of a column with random initia	1	Obituary	N 11
Widening design and application criteria for brass forgings (A)S	69	deflections, The (A)		FRYLING, GLENN R. (reviewer)	
	09	FREEDMAN, MARVIN I.		"District Energy Conversion" (BR)J	. 4
FORSCHER, F.		Co-author with George Zames of paper re	-	Fu, C. C.	
Protecting the public (C)	91	ceiving "best" award from 1968 Join		Dynamic stability of a vibrating hamme	
FORUMS. See MEETINGS		Automatic Control Conference		(A)A	g 6

TUEL ASSEMBLIES		FUNG, Y. C.		Modern refuse incinerationAp	27
Canless reactor fuel assemblies, A struc-	64	Blood flow in lung alveoli models, Experiments on (A)	66		
	57	Peristaltic transport (A)Je	67	GARRETT, JIM	
	0.	Peristaltic waves in circular cylindrical		Receives certificate of appreciation for work as Chairman of ASME Central	
FUEL CELLS. See also ENERGETICS		tubes (A)N	73	Indiana Section for 1967-1968Ag	103
Fuel cell power supply for the artificial		Funk, C. W.		GARRISON, CHARLES L.	
heart, Studies on a (A)Ap	54	Composite materials development for cry-			116
Pressure-balanced hydrazine fuel cell for		ogenic bearing retainers (A)Ap	53		
deep submersibles, Development of a	20	Funk, J. E.		GAS. See also LIQUEFIED NATURAL GAS	
New England "burns"Je	70 85	Transients in pneumatic transmission lines		Application of irreversible thermodynamics	
No solution (C)	75	subjected to large pressure changes		to heat and mass transfer in gas sus-	
TT a fight and retained to sell or have a seal		(A)0	79	pension (A)	65
FUELING SYSTEMS		FUNK, MAX O.	***	Alkalized alumina system for SO, re- moval, The: design and operation of a	
Airplane jet fuel service-station style (A)		Elected ASME FellowAg	104	continuous pilot plant (A)F	60
N	64	Furgurson, R. G.		Automatic nitrogen plantAp	74
FUELS TECHNOLOGY		High temperature sensors for gas turbines		Catalytic-oxidation system for removing	
Alkalized alumina system for SO, removal,		(A)JI	65	SO, from flue gas, The (A)Mr	71
The: design and operation of a continu-		Furnaces		Coal-to-gas pilot plant	83
ous pilot plant (A)F	60	Mini-furnace	52	Correlation of light extinction smoke-	
Are we getting the most out of by-product		sign (A)N	62	meter readings (A)Ap	57
fuels? (A)Je	69	Sulfur dioxide removal from a pilot mov-		EGD takes step forwardF	38
Coal as an industrial fuel (A)Je	70	ing grate furnace stack gas (A)D	58	Fuel additives for the suppression of diesel	
Convective heat transfer in a gas-fired		Vacuum technology for Space Age0	64	exhaust odor and smoke Part I: Proposed mechanism for smoke:	
pulsating combustor (A)F	60	FURNAS, CLIFFORD C.		suppression (A)Ap	58
Direct contact heat transferring fluidized	-	ObituaryJl	124	Part II: Field trials (A)Ap	57
bed boiler, Status of the (A)F	60	Furrows		Gas in industrial processing, The role of	-
Emulsified fuel and fuel control systems (A)	65	Stress concentration around a furrow		(A)Je	70
Fossilectric ratio, The (A)F	61	shaped surface defect in rolling contact,		Heat transfer to horizontal gas-solid sus-	
Gas in industrial processing, The role of	01	An analytical study of the (A)D	62	pension flows (A)N	68
(A)Je	70	FUTER, R. E.		Jet slideMy	88
How oil is meeting needs of the process		Air jets convey solid materialsAp	21	Mini-furnaceS	52
industries (A)Je	69	Conveying solids with cooperating series		Natural gas — supply and economics	-00
How we specify fuels for our plants (A)		of air jets (A)Ja	45	New argon plant	74
Je	70	FUTRAL, SAMUEL M.		Oil is where you find it: old adage yields	
Industrial processing with electrical en-		Instrumentation used to define perform-		new problems (U.S., USSR face tough	
ergy (A)Je	69	ance of small size, low power gas tur-		transporting problem)S	88
Integration of control and fuel system		bines (A)Ag	68	Performance map of the water heat pipe	-
components today and tomorrow (A)				and the phenomenon of noncondensible	
Integrity of irradiated fuel shipping con-	66			gas generation (A)N	65
tainers subject to hypothetical fire ac-		C		Predicting gas flow rates in vacuum sys-	
cident (A)Ap	62	Q		tems (A)Je	60
Lease financing, The functions of (A)Je	70	Letter 1744		Sulfur dioxide removal from a pilot mov-	
Low sulfur fuels, Engineering for (A)Mr	71	GACESA, M.		ing grate furnace stack gas (A)D	
Low sulfur industrial fuel oils (A)Je	69	Condensation of steam on a rotation ver-		Texaco to use californium-252S	
Multi-purpose fuel - problems that we	-	tical cylinder (A)N	70	Thermal entry for low Reynolds number	
face (A)	68	GADDIS, PAUL O.		turbulent flow (A)F	
Natural gas — supply and economics		Elected vice-president, corporate develop-		Throttling capillary for Joule-Thomson measurements, A (A)Je	
N 31; (A) Je	69	ment, Westinghouse Electric Corp.,		Transition from supersonic to subsonic	
Nuclear flight stageN	54	Pittsburgh, PaMy	151	flow at low Reynolds numbers in a tube,	
Numerical solution for the mechanical be-		GAGES		On (A)0	
havior of cylindrical fuel elements, A		Electronic gagingD		Transition from turbulent to laminar gas	
(A)Ap Oil as an industrial fuel, A crystal ball	64	Isotope-powered thickness gaugeN		flow in heated pipe, The (A)N	69
view of (A)Je	70	Response of a fluidic air gauge (A)Je	64	Unsteady pressure differential in a capil-	
Oil is where you find it: old adage yields	70	GAJEWSKI, R. R.		lary-tube gas viscosimeter, Approximate	
new problems (U.S., USSR face tough		Ellipsoidal heads, An evaluation of ASME		correction for (A)0	
transporting problemsS	88	GAKENHEIMER, D. C.	00	Weight shaverS	53
Operating coal-fired, open-cycle MHD sys-		Transient excitation of an elastic half		Gasifiers	
tems at low air/fuel ratios (A)My	105	space by a point load traveling on the		Piston gasifier using computer cycle sim-	
Overall fuel economy of an internal com-		surface (A)N		ulation, A design study of (A)Ap	57
bustion engine, An index to character-		GALFORD, J. E.	10	GASKETS	
ize the (A)Ap	58	Viscoelastic properties of scalp, brain		Anaerobics-a new approach to gaskets	
Photochemical ignition for high-altitude	-	and dura, Some (A)	77	Ag 26; (A) Ap	
flightsJe Plutonium makeup fuelJa	47	GALLAGHER, J. P.		GASPARINI, R.	
Porous fuel elements in nuclear reactors.	34	Environmentally assisted fatigue crack		New approach to the study and prevention	1
On the use of (A)Ap	65	growth rates in SAE 4340 steel (A)		of deposits in modern power stations, A	1
Power from the sunMr	20	A		(A)	59
Removal of pyrite from coal, The (A)F	60	GALLANT, W. E.		GAVIT, WALTER P.	
Sulfur content of coal, Facing up to the		Torsional properties of wire rope (A)(79	ObituaryN	1 110
(A)Je	70	CANDELOT HOWARD K		GAYLORD, A. M.	
Super scrubberS	90	ObituaryJ	104	High temperature sensors for gas tur-	
TAMPA—a computer program for the		GARBACCIO, B. H.		bines (A)	
analysis of reactor fuel and clad (A) Ap	65	8 not 6 cents saved (C)	76	GAYNOR, TOM A., JR.	
Thermal response of a reactor fuel as- sembly cooled by flooding under loss-of-		GARBAGE		Obituary	g 110
normal-coolant conditions (A)Ap	62	Garbage block, The: a new building mate			
Turbine-speed fuel pump for small gas-	32	riall		GAZZE, JAMES A.	
turbine engines, A (A)Jl	66	Garcia, J.		Obituary	. 110
When does the "all-fuel" concept of energy	1111	Load and stability analysis of tubula		Gearhart, W. S.	
make sense? (A)Je	70	strings (A)	64	Compressor or pump stage for minimum	
		GARDE, R. J.		fluctuating lift, The quasi-steady de	
FULLER, W. D.		Resistance of an inclined plate placed on		sign of a (A)J	. 6
Generation of crack propagation data on		plane boundary in two-dimensional flow		GEARS	
notched rotating beam specimens by		(A)		Dynamic behavior of helical gears (A	
means of an interrupted stressing tech-	E77	GARFINKEL, F.			g 6
nique (A)F	57	Dynamic response of pulmonary airway	8	Effects of axial vibrations on frictions	al .
FULTON, WALTER J.		to imposed pressure oscillations (A)M		losses in gear systems (A)A	
ObituaryF	89	GARFINKEL, R. D.		Gear diagnostics and wear detection (A	
	18	Toward professionalism (C)	F 63	Coor poles englares	
FUNABASHI, H.			1	Gear noise analyzer	
Balancing of the fluctuating input torques		GARIBIAN, S. K.		Properties of new point contact system of	
caused by inertia forces in the crank-		Techniques for measurement of windin tension in ring twisting (A)		helical gearings, Some (A)J	
and-rocker mechanisms, On the (A)Ja	45	remotion in ring canadille (w)		mental parameter (set) management	

Gebhart, Benjamin		GIARDINI, A. A.		GOODE, R. J.	
Hot-wire anemometer calibration for		Brittle rock failure under triaxial stress		Stress-corrosion-cracking characterization	
measurements at very low velocity (A)		(A)Je	68	procedures and interpretations to fail-	70
	88	Gibson, P. T.		ure-safe use of titanium alloys (A) Ag	
Natural convection flow, instability, and	70	Torsional properties of wire rope (A)		GOODE, R. W.	
	72	0	79	Propulsion gas turbine experience on the	
Transition and relaminarization in an ex-	65	GIBSON METHOD		Coast Guard Hamilton class high en-	62
The state of the s	99	Gibson method of water measurement,		durance cutters (A)	02
GEERS, T. L.		Velocity distribution and its effect on	-	GOODEN, M. P.	
Excitation of an elastic cylindrical shell		the accuracy of the (A)Je	64	Promoted to assistant director of central	
by a transient acoustic wave (A)N	76	GIESING, J. P.		engineering in American Viscose Divi-	110
GENERAL ELECTRIC CO.		Vorticity and Kutta condition for unsteady		sion, FMC Corp., Philadelphia, PaS	113
AEC closes project0 1	02	multienergy flows (A)D	66	GOODENOW, R. H.	
	-	GIFFORD, ALLEN		Yielding and flow characteristics of low-	
GENERATORS		Named manager, corporate planning serv-		carbon steel between ambient and liquid	
British gas generators for gas turbines,	e0		108	nitrogen temperatures (A)Ag	71
	69	GIFFORD, W. E.		GOODMAN, L.	
Heat recovery steam generators, Some		Small cryogenic regenerator performance		Implantable valveless heart assist pump,	-
considerations in the design and applica-	09	(A)Je	61	An (A)Ap	59
Mitigating hydrogen damage and liquid	63	GILBERT, FELIX		GORMAN, PAUL F.	
phase corrosion in an electrical utility		ObituaryJa	100	Appointed vice-president and project man-	
steam generator, Case study in (A)			102	ager of United Engineers & Construc-	
Ag	71	GILBRETH (Frank and Lillian) INDUSTRIAL		tors' Jackson & Moreland Div., Boston,	
	56	Engineering Award. See Honors		Mass0	125
Oscillating rectilinear fluid flow gen-	90	Gilli, P. V.		GORMLEY, J. F.	
	67	Appointed professor for heat and power		Stresses near an oblique elliptical aperture	
Pressure signal generator for fluidic re-	01	engineering and head of Institute of		in a large plate, On the (A)Mr	72
	79	Heat and Power Engineering at Uni-		GORMLY, H. J.	
search (A)		versity of Technology, Graz, Austria		Society support (C)	92
considerations (A)Ap	62	Ja	99		
Steam generators for nuclear power	3-	GILLMAN, JOSEPH L., JR.		GORMLEY, MAURICE W.	
plants (A)Ap	56		100	Elected to board of directors of Grinding	
	30	Elected ASME FellowJa	100	Wheel Institute, Cleveland, Ohio, for	-
GENOVA, MRS. P. I.		GILLROY, BERNARD J.		three-year termAp	97
Spring equivalent to flywheel for minimal		ObituaryMy	154	GOSLINE, CARL A.	
coefficient of fluctuation, Synthesis of	45	GILMER, G. WALKER		Appointed vice-president of marketing for	
(A)Js	45	Named vice-president—technical-services		University Patents, Inc., Chicago, Ill.	
GEOLOGY		for Aero Spacelines, Inc., and TIFS,		Ag	104
Space benefitsS	60	Inc., Santa Barbara, Calif	195	GOTTARDI, RICHARD	
GEOMETRY. See also MEASUREMENTS			120	Rensselaer errata (C)My	111
Effects of component geometry and sur-		GIUNTA, J. S.		GOTTENBERG, W. G.	
		Flow patterns of granular materials in		Nonlinear viscoelastic solid in uniaxial	
face texture on bearing performance	70	flatbottom bins (A)Ja	45	tension, An experimental study of a	
(A)S	70	GLADDEN, CHARLES S.		(A)N	
Roundness measurement Part 1—Importance of interrelation-		ObituaryF	89	GOURLIE, WILLIAM H.	
	67	GLASER, PETER E.		Recipient, in 1968, of ANSI's (USASI)	
shipsO 26; (C) (D) (AC) D Roundness as related to other meas-	01	Power from the sunMr	20	standards medalJe	
urementAp	52		20	Gouse, S. William, Jr.	00
	36	GLASS			
Part 2—The proposed standardN		Armored glass pipe system0	70	Aerodynamic drag on vehicles in tunnels	
Part 3—Applying the standardD	30	Bird stopperAg		(A)0	75
Roundness standard in use, The	53	Glass-lined pipeJa		Gouzou, J.	
3-D drawings from 2-D viewsJe		Glass pipe, Double-walledJa	32	Deformation and fracture of steel from	1
	46	Reduces pane in the headMr	47	the examination of the behavior of	t
Geophysics		Strengthening glass and glass-ceramics		thick-walled cylinders submitted to high	
Geophysical fluid dynamicsD	81	8	26	pressures, Study of the (A)Mr	r 68
GEORGE, H. H.		Glassman, A. J.		GOVERNMENT	
Promoted from general manager of manu-		Advanced concepts to increase turbine		Teamwork and understanding: keys to na-	
facturing to vice-president of manu-		blade loading (A)F		tional progressA	
facturing, Tube Turns Division of		The state of the s		White House fellows	
Chemetron Corp., Louisville, KyJa	99	GLENNAN, T. KEITH		GRADING	98
	-	Elected to and elected chairman, board of			_
GEORGIA		trustees, Aerospace Corp., Los Angeles,	108	Graded metal-joining technique	N 51
ASME boiler and pressure vessel code	60	Calif 0 126; N	107	GRADY, JOHN J.	
adopted by GeorgiaJl	98	GLICKSMAN, L. R.		Appointed manager of engineering for SI	K
GEORGIA POWER CO.		Radiative energy transfer in an absorbing		Instruments, division of Schutte & Koer	-
Dual-flue chimney0	103	and emitting media, An approximate		ting Co., Cornwell Heights, PaA	
GEORGIAN, J. C.		method for multidimensional problems		GRADY, P. L.	
Matric Computer for the solution of me-		of (A)		Design of a shuttle accelerometer (A)	8 76
chanical vibrations problems, The (A)		GNAZI, H. S.			. 10
	60			GRAHAM, JOHN	
C II	30	Pressure measurements at surface and throat of a pipe orifice, Some (A)Je		Protecting the public (C)	S 83
GERECKE, H.			02	GRANDSTROM, M. L.	
Pressure attenuation in long rarefaction		GODEKE, HENRY L.		Water resource development of Mullic	
wave tubes (A)Je	61	Foundations and mountings for recipro		River basin, New Jersey (A)	
GERLACH, C. R.		cating machinery, Design of (A)	8 75	GRANTS	
Flow-induced vibrations of metal bel-		GOLAND, MARTIN		ASEE to study engineering technolog	-
lows (A)Ag	60	Named Fellow in American Institute o	t	education	
GERMANY		Aeronautics and Astronautics		Grant for designers manual	
"Incore" thermionic reactorJa	40			White House fellows	
Nuclear power stationsN	58	GOLDEN, P. L. Rolling friction			. 50
Stade nuclear stationMy	93			GRANTS, EQUIPMENT	-
Thyristor-driven drilling rigMy	93	IV — Additional car wheel experiment		AEC grants for equipment	JI 88
	-0	(A)	0 00	GRANTS, STUDY	
GERMOND, H. S.		Goldschmied, Fabio R.		ASME Woman's Auxiliary	
Mass and velocity error effects on the per-		Appointed director of Westinghouse Flui		Farny, Sylvia W., fund	F 7
formance of hydraulic energy absorbers		Systems Laboratory, West Lafayette		Rice, Calvin W., memorial fund	
(A)Mr	70	Ind., and visiting professor of mechan	1-	Rothermel, Marjorie Roy, memori	
GERSHBERG, JOSEPH		ical engineering at Purdue Universit	y	fund	
ObituaryF	89	***************************************	0 125	Exchange scholar	J1 8
GETTLER, F. W., JR.		GOLDSMITH, W.		Fellowships for research	
Appointed chief mechancial engineer,		Longitudinal impact on a hollow con	ie .	NASA PhD fellowships	JI 8
		(A)	N 75	NSF fellowships, 1970-71	.D 8
Gibbs & Hills, Inc., New York City0	120			Research fellowship for fluids	.0 10
GIAMMANCO, ROSS P.		GOLDSTEIN, PAUL		GRANULAR MATERIALS	
Joins KEV Electronics Corp., Wilmington,		Elected vice-president, utilities service,		Flow patterns of granular materials	in
Mass., as senior mechanical engineer		Cyrus Wm. Rice and Co., Pittsburg	n,		
0	126	Pa	U 126	flatbottom bins (A)	

GRANULAR MATERIALS (Continued)		GRIFFEL, WILLIAM		GULBRANSEN, L. B.	
Gravity flow of noncohesive granular		Receives highest monetary award from		Flow stress of 6061 Al alloy composites (A)	72
materials through discharge chutes, An	40	Picatinny Arsenal, Dover, N. J., for his volume, "Plate Formulas," and for his		GUNDER, P. F.	
investigation of the (A)Ja Pneumatic transport of fine granular	43	enormous contribution to technical jour-		Evaluation, selection, and testing of proc-	
material (A)Ja	44	nals and permanent literature of engi-		ess heaters (A)N	60
Synthesizing mass flow meter for gran-		neeringAp	97	GUNTER, E. J.	
ular materials using momentum equa-	40	GRIFFIN, W. S.		Influence of flexibly mounted rolling ele- ment bearings on rotor response	
tions of variable mass system (A)Ja GRAPHICS	43	Fluid-jet amplifier with flat saturation	-	Part 1—Linear analysis (A)0	83
Computer graphicsMr	57	characteristics, A (A)	78	Influence of internal friction on the sta-	
Computer-generated graphics in aero-	••	GRIFFITH, J. W. Motor controls—past and present (A)D	54	bility of high speed rotors with aniso-	*0
space design and analysis (A)S	70	GRIFFITH, N. J.		tropic supports, The (A)Ag	00
GRAPHITE		Electrohydraulic power systems for use in		GURTMAN, G. A. Dispersive pulse propagation parallel to	
Material characterization results for a selected graphite fiber/epoxy composite		artificial heart and circulatory assist de-		the interfaces of a laminated composite	
(A)Ag	68	vices, Development of (A)Ap	55	(A)N	75
GRAVITY		GRIFFITH, PETER Co-author with B. S. Shiralkar of paper		GUSTAFSON, R. D.	
Laminar film condensation of a flowing		receiving "best" award from 1968 Na-		Nonlinear optimal control by use of extra linear states to represent nonlineari-	
vapor on a horizontal cylinder at nor- mal gravity (A)	72		120	ties (A)Ap	59
Planetary slingshot0	61	GRIFFITH, ROBERT K.		GUSTAFSON, W. A.	
GRAY, CORNELIUS		Resigns as president and general manager, Riley Stoker Corp., Worcester, Mass.;		Effects of curvature on laminar boundary	
ObituaryP	89	will continue with company as executive		layers in sink-type flows (A)Je	63
GRAY, D. L.		consultantD	96	Guy, J. M.	
Standard for the design of pumps for water-cooled reactor systems (A)My	106	GRIFFON, MARION L.			100
GRAY, DAVID RAMSEY	200	Appointed assistant vice-president for Southeast Region headquarters of Ark-		GWINN, JAMES T., JR. Promoted to manager of product develop-	
ObituaryAp	102	wright-Boston Insurance, Charlotte,		ment of Lord Manufacturing Co., Erie,	
GRAY, H. LIGGETT	-11	N. C8	113	PaJe	99
Obituary	124	GRIMES, A. STIRLING		GYR, RUDOLF	
Rotating heat pipe, The — a wickless,		Recipient of ISA's Philip T. Sprague award from Instrument Society of		Automation systems for large gas pipe-	75
hollow shaft for transferring high heat		AmericaD	96	GYROSCOPES	
fluxes (A)0	88	GRINDING		Gyroscope bearing cross-torque (A)D	65
GRAY, WARREN E.	110	Biaxial residual surface stresses from		Mass producing self-acting gas bearings	
ObituaryN GREADY, J. M.	110	grinding and finish machining 304 stain- less steel determined by a new dissec-		for gyrosS	32
Named product manager, Acco Chain Div.		tion technique (A)F	57		
American Chain & Cable Co., York,		Precision grind0	65		
PaN	108	World's fastest grinding systemD	43		
GREAT BRITAIN Metrication for the United States		GRIPS Tensile testing gripsAg	47	HAAK, R. P.	
How Britain is doing itMy	16	Grooves	-	Effect of state-of-stress and yield cri-	
Metric — there and here (C)Jl	71	Elastohydrodynamic lubrication of a spin-		terion on the Bauschinger effect (A)	***
GREAVES, FRED G., SR.	1.7	ning ball in a nonconforming groove		Mr	72
Elected ASME FellowF	86	(A)	85	HABACH, GEORGE F.	
Compressible laminar wall jet with ar-		in turbulent regime (A)D	61	As the president sees it ASME safety codes: response to public	
bitrary wall temperature, Similarity		Spiral-grooved shaft sealsJa	30	needsMy	109
analysis of (A)	77	GROSH, RICHARD J.		Protecting the public (AC)Ag	
GREEN, L., JR.		Elected to National Academy of Engineer- ing	113	Challenge for the futureMr Planning for the sectionsJa	73 47
Energy for an inland agro-industrial com- munity (A)Ap	55	Gross, J. H.	4.1	Reflections on a year of serviceJe	71
GREEN, VERNON L.	00	Effect of state-of-stress and yield cri-		Elected president of Alumni Association	
ObituaryN	110	terion on the Bauschinger effect (A)	72	of Stevens Institute of TechnologyAg Technology and society	104
GREEN'S FUNCTION		Gross, Nicol		Part 2: Social responsibilities, TheMy	81
Green's function for the stress-intensity factors of edge cracks and its applica-		ObituaryAp	102	HABIB, I. S.	
tion to thermal stresses, A (A)F	57	GROSSER, CHRISTIAN E.		Heat transfer in turbulent pipe flow with	
GREENHILL, HAROLD		Elected ASME FellowAg	104	optically thin radiation (A)My	96
ObituaryF	89	GROSSMAN, P. L.		Nongray radiative transport in a cylin- drical medium (A)	71
GREENSTREET, W. L.		Nonlinear vibrations of shallow spherical		HADDENHORST, R. G.	10.
Investigations on piping components,		shells (A)N	74	Management and control of product engi-	
valves, and pumps to provide informa- tion for code writing bodies (A)My	107	GROUND SUPPORT KSC: Spaceport for the moon		neering changes for aircraft (A)S	68
GREER, EDWARD M.	201	Part 2: Building a gargantuan assem-		HAGEN, D. H.	
Announces formation of Hytronic Service		bly lineJl	35	Lateral stability of road and rail trailers The (A)Ag	
Engineering Co., Inglewood, Calif.; will		World's largest building (C)D		HAGSTROM, R. G.	
be chief executive officer and chairman of the board		Moon mission completed—and recorded (Ed)		Sulfur dioxide removal from a pilot mov-	
GREGG, N. L., JR.	151	GROUTING		ing grate furnace stack gas (A)D	
Oil as an industrial fuel, A crystal ball	1	Setting and grouting large compressor		HAIGLER, EDMUND D.	
view of (A)Je		units, Advances in (A)	75	Underground line, The (C)Mr	7
GREGG, ROBERT D.		GRUITCH, JERRY M.		HALL, HERBERT H.	
ObituaryN	110	Elected president of Litewate Transport Equipment Corp., Milwaukee, WisI		ObituaryF	
GREIF, R.		ObituaryJ		HALL, JESSE H. Elected ASME FellowD	
Heat transfer in turbulent pipe flow with optically thin radiation (A)		GUATEMALA		HALL NEWMAN	
Nongray radiative transport in a cylin-		Sulfur bond	1 53	Engineering education review	
drical medium (A)		GUEDET, R. H.		Appointed editor of "Britannica Review	
GRENDA, E. P.		Dual mode hydromechanical transmission		of Engineering Education"D	8 (
Graphical performance criteria for moving		as applied to gas turbines (A)J	67	HALL, W. B.	
GREYSON, FREDRICK R.	8 74	GUENTHER, OTTO V. Obituary	V 110	Laminarization of a turbulent pipe flow by buoyancy forces (A)	
Obituary	128	GUERECA, R. A.	2.0	HALLANGER, L. H.	
GRIEBE, R. W.		Unsteady pressure differential in a capil	-	DIVERCON 1: a diver construction ex-	
Choking and shock phenomena in a single	-	lary-tube gas viscosimeter, Approxi	-	periment, development problems and so	
component two-phase flow including vi	-	mate correction for (A)	0 83	lutions (A)	
brational effects (A)	N 68	GUGGENHEIM, DANIEL, AWARD 1969 award recipient is H. Julian Alle	20	HALLER, ROBERT F. Appointed vice-president with Warren En-	
GRIESHABER, EMIL ObituaryM	r 105	1969 award recipient is H. Julian Alie		gineering, Inc., Atlanta, GaJ	
Culture J					

HALSEY, G. H.		HARPER, R. E.		HAY, H. R.	
Ultrasonic inspection methods for rubber		Vibration and noise characteristics of an		Naturally air-conditioned building, Con-	
bond condition, A status report on (A)		aircraft-type gas turbine used in a ma-		struction and operation of a (A)Mr	60
bond condition, A status report on (A)	65	rine propulsion system (A)Jl	60	HAYMOND, J. BRENT	
HALVERSTADT, ROBERT D.		HARRACH, W. G.		Materials handling information and con-	
		Motion of a flat-plate pendulum in a		trol (A)	54
Elected president of Design and Develop-		viscous fluid, The (A)Ag	61	HAYNES, JAMES LEROY	
ment, Inc., Cleveland, Ohio, subsidiary				HAYNES, JAMES LEROY Obituary	154
of Booz, Allen & HamiltonD	95	HARRINGTON, WILLIAM M., JR.		HEAD, M. R.	
HAM, I.		Becomes associate of Whitman, Requardt		Effect of uniform injection on heat trans-	
Tool wear, Analysis of		and Associates, consulting engineers of	***		
Part 1: Theoretical models of flank		Baltimore, MdAg	103	fer in the constant property turbulent	62
	101	HARRIS, C. L.		boundary layer (A)Je	02
HAMILL, SAMUEL M., JR.		Vacuum evaluation of lubricants and tech-		HEALD, ROYAL H.	
ObituaryJe	104	niques for space-exposed components		ObituaryMy	154
HAMILL, T. D.		(A)D	62	HEALTH	
		HARRIS, E. H.		Hazards of air pollution. The - fact or	
Hyperbolic heat-conduction equation — a		Dynamic properties of the human leg,		fiction?8	37
solution for the semi-infinite body prob-	-	Experimental and analytic study of (A)		"Nonpersonal" air pollution (C)N	77
lem (A)	87	Experimental and analytic states	78	Public contract standardsS	91
HAMILTON, WILLIAM C.				HEART. See PHYSIOLOGY	
Named director of manufacturing, Mine		HARRIS, FREDERIC R.			
Safety Appliances Co., Pittsburgh, Pa.		Pneumatic transport of fine granular	44	HEAT EXCHANGERS	
0	125	material (A)Ja	44	Aerodynamic stability of a cross-flow type	
HAMREUS, R. G.		HARRIS, T. A.		finned tube heat exchanger, An investi-	00
Pipeline pumps for anhydrous ammonia		Rating life of a linear motion assembly		gation of the (A)My	90
(A)N	64	(A)0	84	Evaluation of heat exchanger surfaces	99
HANBY, V. I.		HARRIS, W. J.		for use in gas turbine cycles (A)My	23
Convective heat transfer in a gas-fired		Environmental effects on pure fluid am-		Fatigue failures induced in heat exchanger	
pulsating combustor (A)F	00	plifiers, Investigation of (A)Mr	65	tubes by vortex shedding (A)N	60
Unescent I D	60	HARRIS, WILLIAM J.		Fire in gas turbine heat exchangers, The	
HANCOCK, J. P.		ObituaryN	110	potential danger of (A)	64
C-5 engine inlet development (A)Jl	65	Transport Top	***	HEAT GENERATORS	
HANDBOOKS. See LITERATURE		HARRISBERGER, LEE		Mini-furnaceS	52
HANDELMAN, GEORGE H.		Wanted: a mechanism information re-	96	HEAT PIPE	
Elected ASME FellowAg	104	search center	30	Avionic heat pipe, An (A)N	66
HANDRALUCA, V.	104	HARTENBERG, RICHARD S.		Determination of properties of capillary	00
Spatial mechanisms with several degrees		Elected ASME FellowF	86	media useful in heat pipe design (A)	
of mobility by means of transmission		HARTER, J. V.		media diserui in near pipe design (A)	67
		Breathing apparatus for diving to great		Effect of nucleate boiling on the opera-	٠.
functions, A kinematic investigation of	40		69	tion of low temperature heat pipes	
(A)Ja	46	depths, Design of (A)S	69		87
HANSBERRY, J. W.		HARTFORD, ERNEST		(A)	01
Elastic behavior of two normally inter-		ObituaryJa	103	Heat pipe channel flow distributions (A)	
secting cylindrical shells, A theoretical		HARTHUN, F. P.		X	66
study of (A)Mr	68			Heat pipe design for electron tube cool-	
HANSEN, A. G.	-	Valve characteristics for pipeline applica-	63	ing (A)N	66
		tions (A)N	90	Heat pipe gas turbine regenerators (A)	-
Jet pump cavitation parameter based on		HARTLEY, SIR HAROLD			23
NPSH, A (A)Mr	64	Receives Hoover medalJa	94	Liquid transport properties of some heat	
HANSEN, J. A.		HARTWELL, ARTHUR E.		pipe wicking materials (A)N	67
STAKRAKE-new concept in bulk mate-		ObituaryN	110	Performance map of the water heat pipe	
rials handling (A)D	57		110	and the phenomenon of noncondensible	
HANSSON, GORAN G.	٠.	HARTWELL, ROBERT W.		gas generation (A)N	65
		Elected vice-president of Detroit Edison		Performance of a wick-limited heat pipe	
ObituaryAg	108	Co., Detroit Mich.; will continue as con-		(A)N	66
HANSTEEN, H. B.		troller of companyAp	97	Rotating heat pipe, The - a wickless,	
Fossilectric ratio, The (A)F	61	HARTWICK, W.		hollow shaft for transforming high	
HANZALEK, F. J.				heat fluxes (A)0	88
		Efficiency characteristics of reciprocating		Temperature distributions in heat pipe	
Joins Combustion Engineering, Inc., Wind-		compressors (A)Ap	58	wicks, Analysis of (A)0	
sor, Conn., as director of product de-		HARWOOD, R. A.		Vapor velocity limit in a sodium heat pipe,	
signAp	98	Nonlinear optimal control by use of extra		Experimental study of (A)0	87
HAPEMAN, M. J.		linear states to represent nonlinearities		HEAT RECOVERY	
Transit propulsion unit suspension, A new		(A)Ap		Gas turbine heat recovery boiler thermo-	
-proved on Northeast Corridor high-		Назнімото, Н.			
speed test cars (A)Ag	72			dynamics, economics and evaluation (A)	
	10	Progressive waves moving through a cir-			
HARDEN, D. G.		cular pipe containing a rotating flow of		Heat recovery steam generators, Some	
Instability thresholds predicted by the sin-		water with an axial cavity (A)0		considerations in the design and appli-	
gle-phase representation of water (A)		Progressive waves on swirling cavity flow		cation of (A)J	1 63
Му	98	in a circular pipe (A)0	73	Waste heat recoveryJa	35
HARDENING		HASKELL, DONALD F.		HEAT SOURCES	
Bounding principle in the theory of work-		ObituaryJa	102	Unseparated fission products as a heat	
hardening plasticity, A (A)0	81	HASLAM, E. T.		source (A)A	62
Elastic-plastic, work-hardening arches (A)				HEAT SYSTEMS	
0	82	Dynamic properties of the human leg,		Thermoeconomics and the design of hear	Ł
		Experimental and analytic study of (A)		systems (A)I	
HARDY, CHARLES		8	78	HEAT TRANSFER	
ObituaryD	100	HASTINGS, FRANK W.			
HARGEST, T. S.		Artificial heart program, TheJe	20	Accelerating turbulent boundary layers	
Compressed air in surgery and patient				An aspect of heat transfer in (A)My	
care, Application of (A)		HASZ, J. R.		Aerodynamic stability of a cross-flow	
HARLEY, JAMES A.		Designing optimum dampers against self-		type finned tube heat exchanger, A	
		chatter (A)My	102	investigation of the (A)M	
Even in England (C)My	111	HATCH, CHESTER E.		Analytical investment of fully developed	
HARMONICS		Obituary	100	laminar flow with heat transfer an	
Speed hearing0	67	HATFIELD, ROBERT M.		variable fluid properties in a rotating	
HARMSWORTH, C. L.		Named director of business development		tube (A)	
Fatigue behavior of titanium castings (A)				Application of irreversible thermody	
		division for Commonwealth Associates		namics to heat and mass transfer i	
J	62	Inc., Jackson, Mich	85	gas suspension (A)	
HARPER, JOHN D.		HATHAWAY, CHARLES A.		Avionic heat pipe, An (A)	
Elevated from president of the Aluminum	1	Elected executive vice-president of Toris	n	Best paper award from 1968 Nations	
Co. of America to chairman of the		Corp., Torrington, Conn		Heat Transfer Conference goes to Pete	r
board; honored by American Academy				Griffith and B. S. Shiralkar	0 120
of Achievement, as one of 50 national		HAUT, R. C.		Binary, gravity-flow film condensatio	
giants of accomplishment, with Golden	1	Rheological properties of canine anterio		(A)M	
Plate awardJ		cruciate ligaments (A)	S 78	Bounded expansions of supersonic flow	78
Receives William Metcalf award from En-		HAWAII		(A)	
gineers' Society of Western Pennsyl-		All-Hawaiian carnival, WAM post-con	1-	Bradshaw's hypothesis for laminariza	B-
vaniaA		vention vacationJe 93; S 99;	0 112	tion, A note on (A)	

HEAT TRANSFER (Continued)		Heat transfer laminar natural convection	427	Prediction of laminarescent turbulent	
Bubble flow up to the critical pressure		within rectangular enclosures (A)N	70	layers, On the (A)N	65
A)0	87	Heat transfer to horizontal gas-solid suspension flows (A)N	68	Pressure drop in condensation (A)My Pressure pulse model for two-phase crit-	99
Calculation of rod bundle pressure loss	00	Heat transfer to mercury flowing in line		ical flow and sonic velocity, A (A)My	94
(A)	90	through an unbaffled rod bundle: exper-		Radiation heat transfer for annular fins	-
enthalpy difference of heavy water, A		imental study of the effect of rod dis-		of trapezoidal profile (A)N	68
(A)0	88	placement on rod-average heat transfer coefficients (A)Je	61	Radiative energy transfer in an absorb- ing and emitting media, An approx-	
Choking and shock phenomena in a single-		Heat transfer to the highly accelerated		imate method for multidimensional	
component two-phase flow including		turbulent boundary layer with and with-		problems of (A)N	71
vibrational effects (A)N	68	out mass addition (A)N	67	Reject heat and radiation from implanted	
Combined free and forced convection for		Hot-wire anemometer calibration for		radioisotope sources, Studies of (A)	105
fully developed laminar flow in hori- zontal tubes, Analysis of (A)N	71	measurements at very low velocity	88	Resistances to heat and momentum trans-	100
Condensation of steam on a rotation	**	Hydrodynamic character of burnout in	-	fer in the viscous sublayer at rough	
vertical cylinder (A)N	70	subcooled liquid boiling in channels,		walls, Some correlations for (A)0	88
Convective heat transfer in a gas-fired		On (A)N	70	Rotating heat pipe, The — a wickless, hollow shaft for transferring high heat	
pulsating combustor (A)F	60	Hyperbolic heat-conduction equation — a solution for the semi-infinite body prob-		fluxes (A)0	88
Cooling the electronS	59	lem (A)O	87	Semi-discrete approximate solution of the	
Correlation of pool-boiling data, A new-		Impairment of turbulent convection heat		inverse problem of transient heat con-	
including the effect of heating surface	00	transfer at supercritical pressures at		Solution of the incompressible turbulent	99
characteristics (A)	98	forced flow of fluid in the vertical channels, To the question of the (A)N	65	boundary-layer equations with heat	
rod simulation of a BWR fuel assembly		Impingement cooling of concave surfaces	00	transfer (A)N	68
(A)My	96	with lines of air jets (A)F	58	Stability of cylindrical bubbles in a ver-	
Deposition of small particles from turbu-		Improved boiling heat transfer with in-		tical pipe (A)0	87
lent streams, On the (A)N	67	duced vapor bubble mixing (A)Je	61	Steam bubble collapse, On some aspects of (A)N	73
Determination of properties of capillary		Induced convection effect upon the peak- boiling heat flux, An (A)N	72	Subject classification bibliography for	
media useful in heat pipe design (A)		Influence of inlet geometry on flow in		thermal contact resistance studies (A)	
Direct contest hast transfer flatter	67	the entrance region of a nuclear re-		My	97
Direct contact heat transferring fluidized bed boiler, Status of the (A)F	60	actor rod bundle (A)My	97	Taylor - Goertler vortices and their effect on heat transfer (A)O	88
Dynamic programming approach to sta-	00	Inlet effects on boiling and near critical hydrogen heat transfer (A)N	65	Temperature dependent expression for	00
bilize forced-convection two-phase flow		Instability thresholds predicted by the	00	the thermal diffusivity of solids, A	
systems with "pressure-drop" oscilla-		single-phase representation of water		technique to determine a (A)Je	62
tions, A (A)N	70	(A)My	98	Temperature development in the entrance	
Effect of density change of the solidifica-		Inverse transition in radial diffusers (A)	66	region of an MHD channel, The solution of, by the B. G. Galerkin method (A)	
tion of alloys (A)N	70	Laminar film condensation of a flowing	00	Му	96
Effect of nucleate boiling on the opera- tion of low temperature heat pipes (A)		vapor on a horizontal cylinder at nor-		Temperature distribution in solid and	
······································	87	mal gravity (A)N	72	hollow cylinders due to a moving cir-	
Effect of thermocapillary flow on heat		Laminar, transition, and turbulent bound-		cumferential ring heat source (A)My Temperature distributions in heat pipe	
transfer in dropwise condensation, The		ary-layer heat-transfer measurements with wall cooling in turbulent airflow		wicks, Analysis of (A)	
(A)N	71	through a tube (A)N	69	Temperature structure and heat transfer	
Effect of uniform injection on heat trans-		Laminarization of a turbulent boundary		characteristics of an electrically heated	
fer in the constant property turbulent boundary layer (A)Je	62	layer in nozzle flow — boundary layer and heat transfer measurements with		model of a seven-rod cluster fuel ele- ment, The (A)	
Effect of vibration on heat transfer from	62	wall cooling (A)N	67	Temperatures in molten reactor fuel tube	
spheres (A)My	94	Laminarization of a turbulent pipe flow	0.	bundles, Analysis of (A)Je	62
Effect of vortices induced by corona dis-		by buoyancy forces (A)N	66	Thermal contact resistance of anisotropic	
charge on free-convection heat transfer		Lateral motion of individual particles in		materials (A)	
from a vertical plate (A)My	96	channel flow — effect of diffusion and interaction forces		flow (A)N	
Evaluation of heat exchanger surfaces for		Part 1 — Particle behavior as a func-		Transient freezing of liquids in forced flow	
use in gas turbine cycles (A)My Experimental investigation of heat trans-	99	tion of systematic motion (A)N	66	inside circular tubes (A)My	
fer in boiling dissociative liquid (A)		Liquid transport properties of some heat	en	Transient heat conduction with time de- pendent boundary conditions (A)N	
N	67	pipe wicking materials (A)N Local heat transfer downstream of abrupt	67	Transition and relaminarization in an ex-	
Flow and heat transfer in a laminarizing		circular channel expansion (A)N	72	ternal natural convection flow (A)N	
turbulent boundary layer (A)N	68	Melting or freezing of finite slabs (A)		Transition from film to nucleate boiling	
Flow in the hydrodynamic entrance re-		My	98	in vertical forced flow (A)	
gion of ducts of arbitrary cross section		Migrational properties for the steady forced vaporization of water (A)My	98	laminar regime for internal convective	
(A)	72	Natural convection flow, instability, and	•••	flow with large property variations	
zontal tube with variable viscosity and		transition (A)N	72	(A)N	68
free convection (A)My	98	Natural convection in enclosed porous		Transition from turbulent to laminar gas	
Free convection heat transfer from verti-		media with rectangular boundaries (A)	70	flow in heated pipe, The (A)N Turbulent flow, heat transfer, and mass	
cal isothermal cylinders with transverse	me.	Natural convection local heat transfer on		transfer in a tube with surface suction	
rree convection through verticel plane	73	constant-heat-flux inclined surfaces (A)		(A)	
layers — moderate and high Prandtl		Nongray radiative transport in a cylin-	71	Turbulent heat transfer at low Reynolds numbers (A)	
number fluids (A)My	98	drical medium (A)N	71	Turbulent heat transfer in concentric an-	
Free convective flow patterns in cylin-		Nucleate pool boiling of sodium, The		nuli with constant wall temperatures	8
drical annuli (A)My	94	mechanism of and stability criterion for		(A)N	
General equations of two-phase systems		(A)My Numerical predictions for circular tube	96	Turbulent natural convection boundary layers, An experimental study of (A)	
and their applications to air-water bubble flow and to steam-water flashing		laminarization by heating (A)N	67	layers, An experimental study of (A	
flow (A)N	72	Nusselt condensing coefficients for cir-		Turbulent velocity distribution in a roo	d
Heat pipe channel flow distributions (A)		cular tube fields (A)Je	62	bundle (A)M	
N	66	Optimum arrangement of rectangular fins on horizontal surfaces for free-convec-		Vapor velocity limit in a sodium heat pipe Experimental study of (A)	
Heat pipe design for electron tube cool-		tion heat transfer (A)N	70	Void fractions in subcooled flow boiling	
ing (A)	66	Performance map of the water heat pipe		(A)	
Heat pipe gas turbine regenerators (A)	59	and the phenomenon of noncondensible		Waste heat dissipation from artificia	
Heat transfer and pressure drop in tape-	00	gas generation (A)		hearts - engineering constraints (A)
generated swirl flow of single-phase		(A)N		M	y 108
water (A)My	99	Pool boiling heat transfer from teflon-		HEATERS	
Heat transfer by a square array of round		coated stainless steel (A)My		Evaluation, selection, and testing of proc	
air jets impinging perpendicular to a		Pool-boiling heat transfer to liquid helium		ess heaters (A)	. 00
flat surface including the effect of	58	The influence of nuclear radiation on (A)		HEATING Electric heatingl	D 79
spent air (A)	00	Prediction of blowdown thrust and jet		Friction-induced heating in axially loade	
optically thin radiation (A)My	96	forces (A)N		ball bearings (A)	

HEATING (Continued)		HESCHELES, C. A.		Hoch, John B.	00
Numerical predictions for circular tube		Disposal of wastes from industrial plants	58	HOCHULI, JOHN H.	••
	67	(A)D	90	ObituaryAs	108
HEATING PLANTS		Heterogeneous anisotropic plates, Analy-		HODGE, P. G., JR.	200
Gas turbine's application in central chilled		sis of (A)	81	Limit analysis of plates, Numerical meth-	
water and heating plants, The (A)Jl	65	HEYA, NAOMICHI		ods for the (A)Je	66
HEFLER, H. D. Transition from land to lake operations		Improvement of pump performance by im-		Numerical comparisons in elastic-plastic	
	61	peller eye throttling (A)	72	torsion, On (A)Je	65
HEIDENREICH, DAVID C.		HEYMANN, FRANK J.		Hodges, John T.	
Appointed sales engineer for Formsprag	*	Receives Charles B. Dudley Medal, for		Appointed senior vice-president, engineer- ing and construction, at Ebasco Serv-	
Co., Warren, MichN	107	1968, from American Society for Test- ing and MaterialsJa 99; Mr	101	ices, Inc., New York, N. YD	95
HEILMAN, P. M.		HICINBOTHEM, J. E.		HODREDGE, E. S.	
Widening design and application criteria	40	Appointed vice-president in charge of		Radiation heat transfer for annular fins	
for brass forgings (A)S HEISER, W. H.	69	sales at Riley Stoker Corp., Worcester,		of trapezoidal profile (A)N	68
Cooled turbine efficiency, Systematic		MassMy	151	Hoff, N. J.	
evaluation of (A)	67	HIGH, M. DEAN	1	Buckling problems of axially compressed	
HEITMANN, A. M.		Pollution control: federal leadershipF	20	thin cylindrical shells of infinite or finite length, Perturbation solutions for	
Turbomechanical transmissions for pro-		HIGH TEMPERATURE		the (A)Je	66
pulsion steering of track-laying vehi-		Very-short-time, very-high-temperature creep rupture of type 347 stainless steel		HOFFER, ARNOLD H.	
cles (A)	63	and correlation of data (A)Mr	71	Named assistant to executive vice-presi-	
HELFANT, M. A.		HIGHWAY STATISTICS		dent of manufacturing, Crane Carrier	
Heat transfer to mercury flowing in line through an unbaffled rod bundle: experi-		1.016 trillion miles in 1968Ag	81	Co., Tulsa, OklaD	95
mental study of the effect of rod dis-		HIKIDA, EDWARD T.		HOFFMAN, E. J.	
placement on rod-average heat transfer		Receives Sylvia W. Farny scholarship		Nusselt condensing coefficients for cir- cular tube fields (A)Je	62
coefficients (A)Je	61	award of ASME Woman's AuxiliaryF	77	HOFFMAN, E. J.	-
HELICOPTERS		HILGARTNER, GEORGE H., JR.		Pressure drop in condensation (A)My	99
High bypass ratio compound fan-shaft en-		Named to newly created position of direc-		HOFFMAN, H. W.	
gines for convertible rotary wing air-		tor of engineering, Brown & Williamson	0.5	Temperature structure and heat transfer	
eraft (A)Ji High-speed shafting design—its use in a	58	Tobacco Corp., Louisville, KyF	85	characteristics of an electrically heated	
helicopter application (A)S	73	HILL, CHARLES C. Aerodynamic torque converter for gas tur-		model of a seven-rod cluster fuel ele-	
Jet flap rotorS	64	bines (A)Ag	68	ment, The (A)My	95
HELIUM		First aerodynamic torque converter for	-	HOFFMAN, JEROME A.	100
Helium facilityJa	55	gas turbines, Design and test of the		ObituaryAp	102
Pool-boiling heat transfer to liquid helium,		(A)Ag	68	HOFFMAN, O.	
The influence of nuclear radiation on		HILL, W. G., JR.		Syntactic foams, The static strength of	
HEMEON, FRED	61	Turbulent, compressible free shear layers,		(A)D HOHENBERG, R.	00
Appointed manager of sales, western re-		Initial development of (A)Je	63	Engine usage indicator, The (A)Jl	68
gion, Nuclear Power Corp., San Jose,		HILLIER, M. J.		HOHENEMSER. K. H.	-
CalifMy	151	Cup drawing from an anisotropic blank (A)		Conflicts in engineers' responsibilities:	
HEMSARTH, JOHN H.		HILLS, F. A.	200	public issues oriented information by	
Elected vice-president - project manager		Computer-generated graphics in aerospace		independent groups of experts (A) My	
of United Engineers & Constructors		design and analysis (A)S		HOKENSON, ALFRED L.	
Inc., Philadelphia, PaAg	103	HILS, WARREN D.		Promoted to assistant superintendent of	1
Henderson, J. M.		ObituaryP	89	the ingot mold foundry at Bethlehem	
Synthesizing mass flow meter for gran- ular materials using momentum equa-		HIMOFF, HYMAN H.		Steel Corp.'s Bethlehem, Pa. plantJe	99
tions of variable mass systems (A)Ja	43	ObituaryD	100	HOLDEN, W. T.	
HENDERSON, R. E.	-0	HINDERER, J. H.		Code quality hyperbaric welding of off-	
Compressor or pump stage for fluctuat-		Identification of a class of nonlinear con-		shore pipelines (A)N	60
ing lift, The quasi-steady design of a		trol systems (A)Ap	61	Holes	
(A)Je	64	HINDERMAN, J. D.		Effect of a central circular hole on fun-	
HENNESSY, J. J.		Determination of properties of capillary media useful in heat pipe design (A)		damental plate frequency (A)As	
Iron deposition and well fouling at Brook-		N		Finite deflections of an elastic circular plate with a central hole (A)	
haven National Laboratory (A)F HENRY, HOWARD J.	61	HIPP, CHARLES W., JR.			
ObituaryN	111	ObituaryD	100	Holl, J. W. Thermodynamic effects on desinent cavita-	_
HENRY, S. L.	***	HISAKADO, T.		tion on hemispherical nosed bodies in	
Glass-lined pipeJa	14	Influence of surface roughness on the		water at temperatures from 80 to 260	
HENRY, T. A.		mechanism of friction, The (A)	63	deg F (A)	
Vibration amplitudes of compressor blades		HISTORY		HOLLANDER, ALADER	
resulting from scatter in blade natural		Problems of a historic voyage	61	ObituaryJ	e 104
frequencies (A)F	59	Нітснея		HOLLANDER, HERBERT I.	
HENSZEY, ROY O.		Cushion hitch, The: a vibration-absorber		Joins Roy F. Weston, West Chester, Pa.	
ObituaryN	111	for tractor-scrapers (A)A	g 58	as a principal consultant	
HERAKOVICH, C. T.		Ніте, С. С.		HOLLAWAY, RAYMOND L., JR.	
Numerical comparisons in elastic-plastic torsion, On (A)Je		Fretting corrosion of unlubricated instru		Named plant manager of Anchor Hocking	e e
	60	ment ball bearings in a controlled en vironment (A)		Glass Corp.'s closure division, Connells	
HERMANN, A. J. (WOODY), JR. Named vice-president — engineering, Au-		Hixson, Joel D.		ville, Pa	F 85
rora Pump, North Aurora, Ill		Receives Marjorie Roy Rothermel memo		HOLLER, R. A.	
HERREBRUGH, K.		rial scholarship fund award of ASMI		Water drag effects of flow induced cabl	
Elastohydrodynamic squeeze films be-		Women's Auxiliary		vibrations (A)M	F 65
tween two cylinders in normal ap-		HLAVAC, P. J.		HOLLIDAY, G. H.	
proach (A)D		Heat transfer to mercury flowing in lin	e	Calculation of allowable maximum casin	
HERRICK, R. C.		through an unbaffled rod bundle: ex	K-	temperature to prevent tension fai ures in thermal wells (A)	
Elastic contact of a hollow ball with a		perimental study of the effect of ro		HOLLINGSWORTH, DWIGHT F.	- 00
flat plate, Analysis of the (A)0	84	displacement on rod-average heat trans		Elected ASME Fellow	le 101
HERRMANN, GEORGE		fer coefficients (A)	le 61		101
Elected ASME FellowJe		HOAD, JOHN G. Elected vice-president of Board of Direct		HOLMES, R.	.11
Vibrations of a laminated body, On the		tors, Engineers Joint Council, Ne		Assessing unbalance effects in a sma turbo-rotor (A)	
(A)Je	67	York, N. Y			01
HERRON, D. P.		HOAGLAND, LAWRENCE C.	-	HOLMES, VOLNEY M.	th
Identifying and implementing optimum		Appointed director and vice-president	of	Retires after 40 years of service with Worthington Corp., Harrison, N. J	
Warehouse systems (A)	90	research of Energy Systems, Inc., New		HOLMOUIST, RICHARD	
HERSEY, M. D. Rolling friction		ton, Mass		Named application engineer for Dunham	n-
IV — Additional car wheel experi-		HOBSON, RAYMOND G.		Bush International Division, West Har	rt-
ments (A)		Protecting the public (C)	.0 91	ford, Conn	.0 12

HOLOGRAPHY		Jakob memorial award of 1968 presented		HORLACHER, W. R., JR.	
High energy green lightAg	56	at National Heat Transfer conference	120	Catalytic-oxidation system for removing	
Practical holographic mode shapes on tur-	51	to Shiro NukiyamaO Levy medal awarded to Dean Karnopp	150	SO, from flue gas, The (A)Mr	71
bine blades (A)	64		107	HORLOCK, J. H. Compressor or pump stage for fluctuating	
Sound way to see, AMr	83	Lubrication Division of ASME gives 1969		lift, The quasi-steady design of a (A)	
3-beam technique	62	distinguished service award to W. E. Campbell	104	Je	64
HOLT, C. E.		Lucas gold medal of 1969 given to		HORNBERGER, WILLIAM N.	
High speed production controls and stand- ards (A)S	70	Clarence J. Coberly by AIMEJe	99	ObituaryMr	105
HOLTON, JAMES L.	10	Melchett medal of 1969 given to William		Hornburg, C. D. Co-head, with R. E. Bailie, of Desalting	
College antecedents of successful engi-		T. Reid by Institute of Fuel (British)	107	Systems and Services, Inc., Ft. Lauder-	
neers		Metcalf award from Engineers' Society		dale, Fla., new consultant-engineering	1231
Lehigh and Drexel were skipped (C)		of Western Pennsylvania given to John		firmF	85
Ар	67	D. Harper	104	Horne, W. G.	
HOLTZCLAW, HENRY J.		achievement goes to Edmond E. Bisson		Hydraulic systems for a 140-ft radio tele- scope (A)F	61
ObituaryMy	154		151	HORNUNG, KENNETH G.	
HOLZBOCK, WERNER G.		National Medal of Science, 1968, to		Lateral vibration of V-belts (A)Ag	63
Appointed to newly created position of		Nathan M. NewmarkMy Navy distinguished civilian service award	151	HORTON, W. F.	
staff engineer for new technology utili- zation, Eaton Yale & Towne, Inc., Re-		presented to Berger M. ShepardD	96	Sensitivity in multivariable control sys-	-
search Center, Cleveland, Ohio Ap	97	PEPP 2nd annual award goes to Richard		tems (A)Ap	60
Honing			126	HOSKINS, EDWARD H. Obituary	111
Honing machineS	65	Prizes presented at ASME Regional Stu- dent Conference of 1969	116	Houda, J. C.	
HONNELL, P. M.		Process Industries of ASME gives first	***	Automatic machine for percussive welding	
Matric Computer for the solution of me-		award (1969) for outstanding contribu-		of contacts on miniature wire spring re-	***
chanical vibrations problems, The (A)		tion in water quality control to Allan	102	lay single wire combs, An (A)My	102
······Ag	60	Cywin S Richards memorial award of 1968 to	102	Houser, G. W. Mitigating hydrogen damage and liquid	
Honors		Bernard W. Shaffer		phase corrosion in an electrical utility	
Allcut award of 1968 given to Richard W.		Errata (C)Ap	67	steam generator, Case study in (A)Ag	71
Keeley by Ontario Section of ASMEO	125	Scott memorial award in cryogenic engi-		Housing	
American Institute of Industrial Engi- neers names Frank H. Neely and Oliver		neering research goes to Richard L. MerriamO	126	Sulfur bond	53
J. Sizelove honorary and fellow mem-		Smith award of 1968 given to Milton C.		HOVANESSIAN, S. A.	
bers, respectivelyS	114	Stuart by Frankford Branch, Scientific		Co-author of two books: "Matrix-Com- puter Methods in Engineering," and	
American Society for Engineering Educa-		Society of AmericaJe	99	"Digital Computer Methods in Engi-	
tion Western Electric award for excell- ence in teaching goes to M. M. El-		Sprague award of Instrument Society of America goes to A. Stirling GrimesD	96	neering"N	107
WakilD	95	Standards medal of ANSI (formerly	-	HOVERCRAFT	
American Society for Testing and Mate-		USASI) of 1968 goes to William H.		Hovertruck0	70
rials elects Everett C. Shuman an honor-		GourlieJe	99	HOWARD, CLIFTON P.	
ary member	126	SWE presents first Rodney D. Chipp award to Clarence E. DavisMr	101	Obituary0	128
ASME appreciation certificate given to Jim Garrett by Central Indiana Section		Tri-State College gives distinguished	202	HOWARD, J. B.	
Ag	103	alumni award to Victor J. JohnsonD	95	Combustion of solid refuse (A)My	108
ASME citation of outstanding service		University of Colorado College of Engi-		Howard, J. H. G.	
goes to Joseph R. ChamberlainMr	101	neering gives 1969 distinguished engi- neering alumni awards to Norman A.		Unsteady flow phenomena in rotating cen-	
ASME members elected to National Academy of Engineering for important		Parker, John Parmakian, and Frank H.		trifugal impeller passages (A)Jl	63
contributions to engineering theory and		ProutyS	114	Howe, Wilfred H.	
practiceS	113	University of Illinois College of Engi-		Awarded honorary membership in Instru- ment Society of America	
ASME pressure vessel and research com-		neering gives honor award to Frederick J. Schlink	96	HOWELL, GLEN H.	
mittee honors E. O. WatersAp Awards to ASME student membersD	80	Washington award of 1969 given to	-	ASME vice-president, Region VN	104
Best paper award for 1968 Joint Auto-	-	Nathan M. NewmarkMy	151	HRIBAR, A. E.	
matic Control Conference goes to co-		Western Electric Fund award to Francis		Intense acoustic fields and viscous fluid	
authors George Zames and Marvin I.	***	H. Raven for excellence in instruction of engineering students	125	flows, On the interaction of (A)F	62
Freedman0 Best paper award for 1968 National Heat	114	Westinghouse gold medal of 1969 goes to		Няен, Т. Ү.	
Transfer Conference goes to co-authors		Ralph C. RoeN	107	Linearized theory of three-dimensional jet	
B. S. Shiralkar and Peter Griffith O	120	HOOVER, HERBERT, MEDAL		mixing with and without walls (A)0	1 78
Carrier award presented by ASHRAE to		Awarded to Sir Harold Hartley of		Hsing, F. C.	
Richard Barrett for paper co-authored by David W. Lockin	95	Awarded to Edgar F. Kaiser		Pulsating flows in infinite and finite con- ical nozzles, Analysis of (A)	
Cornell University Society of Engineers	- 3	Hopenfeld, J.		Hsu, C. S.	
presents 5th annual excellence in teach-		One-dimensional equilibrium cutting gap		Shallow arches on elastic foundations sub-	
ing award to David Dropkin		in electrochemical machining, Predic-		jected to dynamical loads, On the fina	
1969 given to Leo T. Brinson by ASME		HOPFINGER, E. J.	103	states of (A)J	e 66
0	115	Thermal transpiration for the develop-		Hsu, J. J.	
Dudley medal of 1968 given to Frank J.		ment of a new type of gas pump, A		Penetration and mixing of air jets di	
Heymann by American Society for Testing and MaterialsMr		study of (A)Ap	55	rected perpendicular to a stream, Th	
Earle memorial award presented to W.		HOPKINS, NEIL E.		Hsu. T. C.	. 09
J. Ewbank at National Lubricating		Appointed chief products engineer, ab-		Wear on cemented carbide cutting tools	
Grease Institute annual meetingMy		sorption systems, at York Division of Borg-Warner Corp., York, PaAg		A study of (A)M	
Eckman award presented to W. Harmon Roy at Joint Automatic Control Con-		HOPKINS, STEPHEN		Hsu, T. R.	
ference0		Named director of engineering research		Thermal shock on a finite disk due to a	n
Faraday medal of 1969 awarded to Philip		and evaluation at Texaco's Beacon Re-		instantaneous point heat source (A)	0 81
Sporn by Institution of Electrical Engineers of EnglandJe		search Laboratories, Beacon, N. Y0	125	Hsu, Y. C.	
Fiber Society presents distinguished		HOPPER, A. T.		Lubricated direct-extrusion process	
achievement award to W. Denney Free-		Transient heat conduction with time de- pendent boundary conditions (A)N		high-strength and high-melting-poin materials, with isothermal surface of	
ston, Jr		HOPPER, DEAN N.	10	die and container, A study of (A)!	
Fritz medal of 1970 goes to Glenn B. Warren		Obituary	1111	Hsu, Y. Y.	
Gilbreth industrial engineering award of		Hoppeas		Stability of cylindrical bubbles in a ver	-
AIIE for 1969 goes to Ralph M. Barnes		New methods of applying vibrating hop		tical pipe (A)	
Wassers and a second to Six Harold		pers (A)		Hu, P. Y.	0.3
Hartley of EnglandJa 94		Screw hopper dischargers, Entrainmen	t	Response of linear systems to magnitude	
Edgar F. Kaiser	125	patterns of (A)	42	limited random excitation (A)A	E 65
Iowa State University awards professiona	1	HOPPMANN, W. H., II		Huang, C. C.	
Raymond A. Engel		Oscillating rectilinear fluid flow gener ator (A)		Precession and critical speeds of rotor sy- tems, An analysis of (A)	
ALBYDDING A. MIKE!		# 10 (and)		,	-

HUANG, H. K.		sion inside a plate under tension (A)	00	bine machinery of the Finnish Navy 700	
Force distribution on lower partial den- tures with symmetric saddles, Theo-		HUTTON, PHILIP H.	00	ton gunboat, Experience with the (A)	69
retical analysis of (A)S	77	Use of acoustic emission to study failure		IMPACT ·	
HUANG, N. C.		mechanisms in metal (A)Ag	70	Design of a fluidic direct impact modu-	77
Elastic filament reinforcement of a visco-	70	HUTTON, S. E. Obituary	111	Dynamic dummyMr	55
elastic cylinder, On (A)N HUANG, T. C.	76	HWANG, G. J.		Impact on the environment (Ed)N	17
Precession and critical speeds of rotor sys-		Thermal instability in plant Poiseuille		Longitudinal impact on a hollow cone (A)	75
tems, An analysis of (A)Ag	66	flow (A)N	70	IMPELLERS	
Self-sustained two-degrees-of-freedom sys- tem with nonlinear damping, Response		Hydraulics		Calculating the head developed by an im-	
and stability of a (A)Ag	62	Closed power water/oil hydraulic pump- ing (A)	60	peller with a finite number of blades,	
HUANG, Y. S.		Correlation of hydraulic component con-		Approximate method for (A)	72
Temperature distributions in heat pipe		tamination tolerances with filtration	70	impeller eye throttling (A)	72
wicks, Analysis of (A)O HUBBARD, R. P.	87	capabilities (A)	63	Unsteady flow phenomena in rotating cen-	
Crack growth under cyclic compression		Hydraulic systems for a 140-ft radio tele-		trifugal impeller passages (A)Jl	63
(A)F	57	scope (A)	61	IMPINGEMENT Heat transfer by a square array of round	
HUBBELL, R. D.		Mass and velocity error effects on the per- formance of hydraulic energy absorbers		air jets impinging perpendicular to a	
Development of polybenzimidazole bonded solid-film lubricants (A)D		(A)Mr	70	flat surface including the effect of	
HUDDLESTON, J. V.	65	New 400-ton pressF	51	spent air (A)	58
Finite deflections and snap-through of		Pressure transients in hydraulic pipelines (A)	61	ing jet flows (A)0	79
high circular arches (A)Je	65	Reduction of noise and vibrations in a hy-		IMPULSES	
HUDSON, WELBORN R., JR.		draulic turbine (A)0	75	Axisymmetric response of a fluid-filled	
Obituary	100	Self-propelled power wheelAp	40	spherical shell to a local radial impuse — a model for head injury (A) S	77
Infants and children in the adult world of		HYDRAZINE Pressure-balanced hydrazine fuel cell for		Nonlinear response of a cylindrical shell	•••
automobile safety design: pediatric and		deep submersibles, Development of a		to an impulsive pressure (A)0	80
anatomical considerations for design of		prototype (A)Jl	70	INCINERATION AND INCINERATORS	
child restraints (A)S	78	Hydrodynamics		Advanced features incorporated in the	
HUFFMAN, F. N. Implantable, Rankine-cycle circulatory		Hydrodynamic character of burnout in subcooled liquid boiling in channels, On		Miami County, Ohio, incinerator (A)	108
support system, Design of an (A)Ap	54	(A)N	70	Combustion of solid refuse (A)My	108
Reject heat and radiation from implanted		Predicting the oil film thickness in hydro-		Enigma of incinerator design, The (A)	108
radioisotope sources, Studies of (A)	105	dynamically lubricated gears (A)Ap	53	Incineration of process wastes (A)My	108
HULBERT, L. E.	105	HYDROFOILS Cavitation tests on hydrofoils designed for		Modern refuse incinerationAp	27
Transient heat conduction with time de-		accelerating flow cascade:		Novel incineratorJa	55
pendent boundary conditions (A)N	70	Report 4 — Three profiles designed for	-	"Principles and Practices of Incineration" (BR)D	67
HULCE, V. D.		high head Kaplan turbine (A)F	61	Inclusions	
Dynamic mechanical properties of human brain tissue (A)	-	Northwest Hydrofoil Line's hydrofoil ship Victoria gas turbine main propul-		Axisymmetric stress field around sphe-	
HULETT, R. H.	77	sion system (A)	69	roidal inclusions and cavities in a trans-	
Avionic heat pipe, An (A)N	66	Hydrogasification		versely isotropic material (A)Je	68
HULTEN, K. G. PONTUS		Coal-to-gas pilot plantJl	83	Cavitation at the ends of an elliptic in- clusion inside a plate under tension (A)	
Author of catalog for Museum of Modern		HYDROGEN		Je	66
Art exhibit on The Machine as Seen at the End of the Mechanical AgeMy	127	Effect of hydrogen on the strength of austenitic and nickel-base alloys (A)		Indentations	
Hum, M. R.	***	Ag	71	Depth of permanent indentations in flat	
Closed Brayton cycle system, An analog		H-power breakthrough loomingD	37	plates due to loaded cylindrical rollers (A)	83
computer simulation of a (A)Jl	65	Incipient and nucleate boiling of liquid hydrogen (A)Je	61	INDIA	-
HUMAN FACTORS ENGINEERING.		Inlet effects on boiling and near critical	-	Deadly bubbles, The: cavitation to be stud-	
See BIOMECHANICS AND HUMAN FACTO	ORS	hydrogen heat transfer (A)N	65	ied at new UNDP Indian laboratory	-
HUMANITY		Mitigating hydrogen damage and liquid phase corrosion in an electrical utility		INDUSTRIAL DEVELOPMENT	12
Peace from the tap?F HUMBLE OIL & REFINING CO.	47	steam generator, Case study in (A)		Chemical center plannedJa	41
Oil is where you find it: old adage yields		Ag	71	INDUSTRIAL MATHEMATICS SOCIETY	
new problems (U.S., USSR face tough		HYER, J. P.		Appoints Robert Schmidt editor of its	
transporting problem)S	88	Rating life of a linear motion assembly (A)	84	journal, "Industrial Mathematics"O	126
HUMPHREY, W. R. Allison model 501-K14 gas turbine 1000 hr		Hyler, Walter S.	04	Cash in the cashewD	40
saltwater ingestion test (A)Jl	62	Named senior advisor and director of		Centrally located controls for an industrial	
Hung, J. C.		structural design allowable program at		power plant (A)D	59
Low sensitivity sample-data control sys-		Battelle Memorial Institute, Columbus, OhioAg	104	Coal as an industrial fuel (A)Je Design and application considerations ef-	
tems, Design of (A)Ap	60	Hysteresis	104	fecting industrial gas turbine mainte-	
HUNT, DAVID H. Appointed vice president of Spencer Tur-		Steady-state response of a two-degree-of-		nance (A)Ag	68
bine Co., Hartford, ConnS	114	freedom double bilinear hysteretic sys-	40	Development of voluntary controls (A)	
HUNT, E. C.		tem (A)Ag	63	Disposal of wastes from industrial plants	
Heat recovery steam generators, Some				(A)D	
considerations in the design and applica- tion of (A)Jl	63			Energy for an inland agro-industrial com-	
HUNT, K. H.	00			Forecasting of technology in industry, A	
Gross motion attributes of certain spatial		· · · · · · · · · · · · · · · · ·		framework for (A)Ap	
mechanisms (A)Ja	45	l'Anson, L.		Gas in industrial processing, The role of	
HUNTER, D. O.		High bypass ratio compound fan-shaft en-		(A)	70
Ultrasonic nondestructive measurement of irradiation damage in steel (A)Ag	71	gines for convertible rotary wing air- craft (A)		hicle, Measurement and control of (A)	
HUNTER, J. V.	11	IDENTIFICATION			1 62
Contribution of photosynthetic reaeration		ID card based on hand geometryAg	51	Gas turbines: a modern approach to indus-	
to total reaeration of the Passaic River		Ignition		"Grand conceptor" awardJ	
(A)S	80	New ignition burnerJe Photochemical ignition for high-altitude		How we specify fuels for our plants (A))
HUNTING		flightsJe		Industrial arrespoint with electrical	
Hunting of railway vehicle on test stand,		Spark in spark ignition natural gas en-		Industrial processing with electrical energy (A)Jo	
Problems on (A)P	52	gines, The (A)	75	Industrial truck safety operation and	d
Mechanical heart assists, Development of		ILFREY, W. T. Developments in marine drilling rises		maintenance of industrial trucks (A)J.	
(A)Mr		technology (A)N		Keep Informed (new equipment, business notes, latest catalogs)Ja 109	
Hussain, M. A.		ILLINGWORTH, A.		notes, latest catalogs)Ja 109 F 95; Mr 111; Ap 109; My 157; Je 109	;
Cavitation at the ends of an elliptic inclu-		Olympus powered Brown Boveri gas tur-		JI 127; S 119; O 133; N 117; I	113

Low sulfur industrial fuel oils (A)Je	69	INSTITUTION OF ELECTRICAL ENGINEERS		IRAN	11
Maine action planF	69	OF ENGLAND		Solution of the control of the contr	64
Management program at PIB	104	Faraday medal of 1969 goes to Philip Sporn Je	99	IRELAND	••
Mini-radar tool	92	Institution of Mechanical Engineers,		Chemical center plannedJa IRON INDUSTRY	41
ager (A)	57	ENGLAND Elects Philip Sporn an honorary fellow	99	Slabbing and blooming millAp	50
New 11,000 hp industrial gas turbine, De-	113	INSTRUMENT SOCIETY OF AMERICA		Photochemical ignition for high-altitude flights	47
sign and development of a (A)Ag 1969 U.S. industrial economy, The: the	68	Chester S. Beard elected a district vice- president	126	ISOLATION	
year with the unknown influencesMr Oil as an industrial fuel, A crystal ball	80	Honorary membership awarded to Wilfred H. HoweD	96	Active vibration isolation of human sub- jects from severe dynamic environments	
view of (A) Je Power at—452 F	70 66	Sprague, Philip T., award presented to A. Stirling Grimes	96	lsotopes	65
Regenerators for industrial gas turbines,		INSTRUMENTS AND APPARATUS		Isotope-powered thickness gaugeN Nuclear desalting facilityF	53 69
Design and experience with (A)Ag Safety aspects in the design of industrial	68	Calorimeter apparatus to measure the enthalpy difference of heavy water, A	00	ISRAEL	
Trials of additives for sulfur-dioxide re-	68	(A)	88	Hovertruck0	70
moval in industrial plants (A)D Value of water in industry, The (A)S	58 79	Correlation of light extinction smoke-	57	Critical heat flux measurements in a 16-	
INERTIA	10	meter readings (A)Ap Deviations from the cosine law for yawed		rod simulation of a BWR fuel as- sembly (A)Ag	71
Balancing of the fluctuating input torques		cylindrical anemometer sensors (A)Je Engine usage indicator, The (A)Jl	65 68	ITALY	
caused by inertia forces in the crank- and-rocker mechanisms, On the (A)		Flare inspection instrumentN	46	Italy-Spain cableJa	40
Influence of inertia forces in turbulent and	45	Hot-wire anemometer calibration for measurements at very low velocity (A)		Natural convection in enclosed porous	
laminar self-acting films, On the (A)		Ô	88	media with rectangular boundaries (A)	70
Influences of large amplitudes, trans-	64	Instrumentation used to define perform- ance of small size low power gas tur-		Iwan, W. D.	
verse shear deformation, and rotatory		bines (A)	68	Equivalent nonlinear system approach to	
inertia on lateral vibrations of trans- versely isotropic plates (A)O	81	Ag	46	dissipative dynamical systems, Applica- tion of an (A)	73
Inflation		Isotope-powered thickness gaugeN Measurement of rotating machinery vi-	53	lyot, H.	
Jet slideMy Information Centers	88	bration and factors affecting instru-		Properties of new point contact system of helical gearings, Some (A)Ja	45
IERE formedO	71	ment accuracy (A)My Measuring residual stresses in metalsMy	103 86		
"Second sun, The" (former ferryboat		Nuclear control instrumentsAg	57	The state of the property and the state of t	
launches new career as floating nuclear information center)S	92	Optical alignment instrument	56 54		
Wanted: a mechanism information re-	30	Roundness measurement		and the second second	
Information Retrieval	30	Part 3 — Applying the standardD	30 53	JACKMAN, L. A.	
Getting and using feedback of information		Roundness standard in use, The (A)		Very-short-time, very-high-temperature creep rupture of type 347 stainless steel	
for design changes (A)S Home-based computersO	74 58	Sea Gulliver	123 43	and correlation of data (A)Mr	71
Laser readerS	51	3-D drawings from 2-D viewsJe	46	Jackson, J. D. Laminarization of a turbulent pipe flow	
Management systems in the 70'sN Optically exciting a magnetic memory0	19 63	Unsteady pressure differential in a capil- lary-tube gas viscosimeter, Approximate		by buoyancy forces (A)N	66
U. S. space centers use quick-retrieval	100	correction for (A)0	83	Jackson, J. W. Relaxation of residual stresses in auto-	
data system (RECON)0 INFORMATION SYSTEMS	100	Insulation Insulating Apollo's fuel cellsAp	41	frettaged cylinders, Investigation of the	
Materials handling information and con-		INTAKE	**	JACOBOSKY, GILBERT G.	57
trol (A)	54 53	Response of axial flow compressors to		ObituaryF	89
INFRARED PHOTOGRAPHY		intake flow distortion, The (A)Jl INTERFEROMETERS	62	JAFFE, A. V.	
Signatures in infraredO INGENRIETH, KARL	57	Interferometer control of cutting depth		3000-psi hydrostatic facility, A (for static and dynamic pressure tests) (A)F	56
ObituaryD	100	INTERNATIONAL ACADEMY OF	46	JAGANNATH, D. V.	
INJECTION Effect of uniform injection on heat trans-		MANAGEMENT		Gas turbine blade vibration, Experimental investigation of—a review (A)Ag	67
fer in the constant property turbulent		Names Phil Carroll a fellowAg INTERNATIONAL ATOMIC ENERGY AGENCY	104	JAIN, A. K.	
boundary layer (A)Je Laminarization of turbulent flow in a cir-	62	Nuclear information system	53	Direct contact heat transferring fluidized bed boiler, Status of the (A)F	60
cular porous tube with uniform mass		INTERNATIONAL ELECTRIC RESEARCH EX-		JAKLITSCH, J. J., JR.	-
injection through the tube wall (A) N	67	CHANGE IERE formedO	71	Coming: a new breed of engineer (Ed)D Deferment for graduate students (Ed)S	13
C-5 engine inlet development (A)Jl		International Federation for Theory		Impact on the environment (Ed)N	17
Engine inlet on the 747, The (A)JI	64	OF MECHANICS AND MECHANISMS		"Just kids" (Ed)	13 25
Inspection and sorting with fluidics (A)		IFTMM foundedN	83	Metric gambit, The (Ed)My	71
Track quality index, Development and use		INTERNATIONAL NICKEL CO. OF CANADA Renames its Harbor Island Corrosion		Metric—there and here (C)	71
of a (A)Ag	72	Laboratory in honor of the laboratory		(Ed)	25
Ultrasonic inspection methods for rubber bond condition, A status report on (A)		founder, Francis L. LaQue	119	Commandments, The (C)Jl	73
A)		SYSTEM		Target: the moon (Ed)Je JAKOB, MAX, MEMORIAL AWARD	
INSTABILITY Vibration and dynamic instability of a	. 1	Nuclear information systemD	53	Recipient of 1968 award is Shiro Nuki-	
beam-plate in a transverse magnetic		INTERNATIONAL ORGANIZATION FOR		JAKUBOWSKI, M.	120
field (A)		STANDARDIZATION ISO — the global view	90	Pneumatic analog-digital and digital-ana-	
Engineers		New members ISOMi	83	log converters (A)Ap	60
Program on case studies in system con-		World measurement system?J	83	Janzow, L. G. New transportation system concept for	
INSTITUTE OF FUEL (British)	112	New approach to the study and prevention	1	urban, industrial and bulk material ap-	
Melchett medal of 1969 goes to William		of deposits in modern power stations, A		plications (A)	54
T. ReidN	107	Iowa Engineering Society		BOF steelmakingN	59
Coal-to-gas pilot plantJ	83	View of engineers	102	Desalination plant for KuwaitMy IERE formedO	93
INSTITUTES. See MEETINGS		IOWA STATE UNIVERSITY		New Univac facility	56
INSTITUTION OF CIVIL ENGINEERS Awards Kelvin gold medal of 1968 to Sir		Professional achievement citation in en- gineering awarded to Raymond A		Ocean cityMr Pump turbines for New YorkAg	57
Barnes WallisJ		Engel		Underwater buildozerAg	57

Bin loads, On the theory of (A)Ja	49	Johnson, C. Scott		layers, On the (A)N	65
JENKINS, C. W.	43	Countermeasures to dangerous sharks (A)	69	Jong, I. C.	
Impingement cooling of concave surfaces		Johnson, Evan A.		Circulatory system with bilinear hysteresis	01
with lines of air jets (A)F	58	Named vice-president of Sumitomo Shoji	***	damping, On stability of a (A)O Jonsson, J. Erik	81
JENKINS, E. M., JR. Gross motion attributes of certain spatial		America, Inc., New York, N.Y	114	Avalanche: the cities and the 70'sJe	32
mechanisms (A)Ja	45	Understanding today's container systems		Jonsson, V. K.	
JENKINS, J. H.		for physical distribution (A)D	56	Resistances to heat and momentum trans- fer in the viscous sublayer at rough	
Metrication for the United States		Johnson, G. Dugan		walls, Some correlations for (A)O	88
Canadian view, TheMy JENKINS, PETER	19	Elected ASME FellowJa Gibson method of water measurement,	100	JORDAN, F. D.	
ObituaryN	111	Velocity distribution and its effect on		Closed Brayton cycle system, An analog	
JENSEN, JAMES N., JR.		the accuracy of the (A)Je	64	computer simulation of a (A)	65
ObituaryAg	108	Johnson, H. C.		JORGENSEN, ARNOLD T. Elected a senior vice-president with over-	
JEPSON, JOHN		Natural resources management Part 1: Air		all responsibilities for electric and gas	
Appointed head of newly formed Corpor-		Automotive pollutants (C)Je	73	production, construction and sub-station	
ate Research and Development Depart-		JOHNSON, H. T.		maintenance at LILCO, Long Island, N. YS	113
ment for Acushnet Processing Co., New Bedford, MassJa	99	Turbine-speed fuel pump for small gas-		Jorgensen, S. M.	
JERGER, EDWARD W.		JOHNSON, K. L.	66	Designs for closures and shell jointsJe	24
Appointed associate dean of College of En-		Tightening torque versus bolt tension re-		JORNOT, EDWARD	
gineering, University of Notre Dame,		lationships (A)S	70	Obituary	89
Notre Dame, IndAp	97	Johnson, L. J.		Joseph, Earl C. Management systems in the 70'sN	10
JESSER, BENN W. Natural resources management		More support for engineers (C)Je	73	Joslyn, Ray Oliver	
Part 1: airMr	25	JOHNSON, MILTON R. Joins HTRI, Chicago, Ill., as scientific ad-			115
JETLINERS		visor, engineering mechanics; appointed		JOVANE, F.	
Jet slideMy	88	assistant director of researchO 126; N	107	Eutectic alloy of Pb and Sn, Some extru-	101
JETS		Johnson, R. C.		sion studies of the (A)My	101
Air jets convey solid materialsAp	21	Venturi meter with separable diffuser (A)	62	Ju, F. D. Moiré method for measuring large plane	
Conveying solids with cooperating series		Johnson, Victor J.	02	deformations, The: general theory and	
of air jets (A)Ja Compressible laminar wall jet with arbi-	45	Receives distinguished alumni award from		application to homogeneous deformation	20
trary wall temperature, Similarity an-		Tri-State College, Angola, IndD	95	(A)N	76
alysis of (A)0	77	JOHNSON, W. S.		Judy, R. W., Jr. Stress-corrosion-cracking characterization	
Flow separation and reattachment in con- fined jet mixing (A)O	72	Induced flow in a pulsejet ejector with experimental verification, A mathemati-		procedures and interpretations to fail-	
Fluid-jet amplifier with flat saturation		cal model for the prediction of the (A)		ure-safe use of titanium alloys (A)	70
characteristics, A (A)0	78	Mr	62	Linconne	70
Heat transfer by a square array of round air jets impinging perpendicular to a		JOHNSON, WILFRID E.		JUNCTURES Transient shear waves in two joined	
flat surface including the effect of		Protecting the public (C)	90	elastic quarter spaces (A)D	66
spent air (A)	58	JOHNSTON, J. P. Effects of nonuniform inlet velocity pro-		JUPITER, SAUL R.	
Impingement cooling of concave surfaces	E0	files on flow regimes and performance		Appointed director of aerospace market-	
with lines of air jets (A)F Induced flow in a pulsejet ejector with ex-	58	in two-dimensional diffusers (A)Mr	62	ing, Pall Corp., Glen Cove, N. Y.; con- tinues as vice-president of engineering	
perimental verification, A mathematical		JOHNSTON, J. AMBLER		and sales for Aircraft Porous Media,	
model for the prediction of the (A)Mr	62	Apollo 11 (C)O Joints	94	Inc., a subsidiaryAp	97
Linearized theory of three-dimensional jet mixing with and without walls (A)O	78	Designs for closures and shell jointsJe	24	JUSTIN, JOEL B.	
Low-area-ratio water jet pumps, An ex-		Long-lived jointS	52	Serves on Consulting Engineers Council Professional mission to five Southeast	
perimental investigation of several (A)		Massive expansion joints for exhaust pip-	50	countriesMy	151
Optimal design of staged jet-pump sys-	74	ing system	45		
tems (A)My	104	Jonakin, J.	-		
Penetration and mixing of air jets directed		Joins Combustion Engineering, Inc., Wind-			
perpendicular to a stream, The (A)F Shock structure in transversely imping-	59	son, Conn., as product manager for air- pollution control systems	00	K	
ing jet flows (A)	79	Jones, C. D.	98	N	
Trajectory and spreading of a turbulent		Optimum arrangement of rectangular fins		Kicken & C	
jet in the presence of a crossflow of arbitrary velocity distribution (A)Jl		on horizontal surfaces for free-convec-	-	KACKER, S. C. Two-dimensional, turbulent wall jet in a	
Two-dimensional, turbulent wall jet in a		tion heat transfer (A)N	70	moving stream, Some properties of the	
moving stream, Some properties of the		JONES, D. I. G. Resonant beam tuned damping device, A		(A)Je	68
Water jet pumps, Optimum design of	68	(A)F	59	ObituaryMy	154
(A)Je	64	JONES, HENRY S.		KAELIN, C. R.	104
JEX, EARL C.		ObituaryAg	108	Track quality index, Development and use	
Appointed marketing manager, metal		JONES, J. B.		of a (A)Ag	72
products div., Koppers Co., Baltimore,		Professor of mechanical engineering, Vir-		KAGIWADA, H. H.	
MdN Johansen, K. F.	107	ginia Tech, Blacksburg, Va., retires after 48 years of service	126	Invariant imbedding and sequential inter- polating filters for nonlinear processes	
Motion of a spherical pendulum, A simple		Jones, M. S., Jr.		(A)Ap	
description of the (A)N		MHD power generation: current status		Kahawa, Yukio	
JOHANSON, J. R.		B. AL-WID L. W. ALAN	18	Damping of cylindrical shells coated with	
Bin loads, On the theory of (A)Ja		Report by MHD subcommittee of ASME energetics division (A)My	105	viscoelastic materials, On the (A)Ag KAISER, EDGAR F.	00
of bins (A)		JONES, MARVIN R.	200	Receives Hoover medal	125
JOHNS HOPKINS UNIVERSITY	40	Elected ASME FellowMy	152	KAISER, H.	
Bioengineering subcontracts	85	Jones, N.		Flow of a melted plastic through a screw	
JOHNSON, A. PEMBERTON		Elastic behavior of two normally inter-		extruder, Prediction of (A)F	62
Elected ASME Fellow	120	secting cylindrical shells, A theoretical		KALABA, R. E. Invariant imbedding and sequential inter-	
Johnson, B. L.		JONES, O. E.	68	polating filters for nonlinear processes	
Actual popping pressure of a relief valve		Longitudinal wave propagation in a cir-		(A)Ap	
with a real helical spring under dynamic load (A)Ag		cular bar loaded suddenly by a radially		Kalinske, A. A. Field testing of aerators in waste treat	
Transfer functions for helical springs (A)		distributed end stress (A)N	74	ment plants (A)	
·····		JONES, ROBERT M.	***	KALITA, R. E.	72-1
Johnson, C. D.	100	ObituaryS	116	Dynamic measurement of absolute track	
Linear dynamical systems, Optimization of a certain quality of complete control-		JONES, W. P. Bradshaw's hypothesis for laminarization		From Francisco (A) Kalkstein, M.	72
lability and observability for (A)Ap		A note on (A)		Responsibilities of engineers (A)My	y 107

KALPAKJIAN, S.		KEER, L. M.		KENNY, J. M.	477
Barreling as an example of free deforma-		Vibratory motion of a body on an elastic	077	Value control (A)	01
tion in plastic working, A study of	100	half plane (A)		KENTFIELD, J. A. C. Performance of pressure exchangers, An	
KANE, JOHN J.		Apriba, J. J.		approximate method for predicting the	
Named acting head of mechanical engi-		Management and control of product en- gineering changes — data processing		(A)Mr	63
neering dept., California State Poly-		equipment (A)	68	Pressure-exchanger dividers and equal-	-
technic College, San Luis Obispo, Calif.		KEGG, R. L.		izers, The performance of (A)Mr	62
V 70 D	126	Low-speed chatter effects, An explanation		KEPHART, J. T., JR.	
KANE, T. R.		of (A)Ag	61	One-way air chambers for pumping plants	41
Motion of a spherical pendulum, A sim- ple description of the (A)N	74	KEIM, CHARLES J.		(A)	91
KANNEL, J. W.	1	College antecedents of successful engi-		KEPPLE, R. K. Rolling element fatigue and macroresid-	
Simulation of ball-bearing lubrication		Lehigh and Drexel were skipped (C)		ual stress (A)0	86
with a rolling-disk apparatus (A)0	84	Ap	67	Kercher, D. M.	
KAR, S.		Keim, E. L.		Heat transfer by a square array of round	
Conical diffuser/exit duct combinations,		Tapered roller thrust bearings with var-		air jets impinging perpendicular to a	
Theory and performance of (A)Mr	65	ious lubricating systems, High-speed		flat surface including the effect of	
KARASUDHI, P.		performance of (A)	83	spent air (A)Jl	58
Vibratory motion of a body on an elastic		KEINATH, GEORGE		Kerekes, Z.	
half plane (A)Je	67	Handling metrics (C)Ja KEITH. H. D.	48	Recent experience with ash deposits in ref-	107
KARDOS, G.		Optimization techniques in design (A)S	67	use-fired boilers (A)My	105
Bourbon tube test data, Correlation and analysis of (A)Je	69	KELGARD, ERIK	01	KESSEL, P. G.	
KARNES, C. H.	00	Large diesel engine, The — its role in		Response of a beam subjected to a cyclic	61
Axisymmetric elastic-plastic wave propa-		automated pipelines (A)S	75	moving load, On the (A)Ag	01
gation in 6061-T6 aluminum bars of		KELLEHER, M.		KESSLER, GEORGE W.	
finite length (A)N	75	Taylor-Goertler vortices and their effect		Elected to National Academy of Engi-	119
KARNOPP, DEAN C.		on heat transfer (A)0	88	neering	***
Complete response of distributed systems		KELLER, H. H.		KETCHEL, RAYMOND J.	***
controlled by a finite number of linear		Radiation heat transfer for annular fins		ObituaryN	111
feedback loops (A)Ag	67	of trapezoidal profile (A)N	68	KETCHPEL, PAUL A.	
Joins college of engineering faculty,		KELLER, HARRY H.		•	154
University of California, Davis, Calif.	108		154	Kevil, C. G.	
Optimization techniques for shock and vi-	100	KELLER, K. H.		Ten-year process gas turbine experience	- 07
bration isolation, Comparative study		High pressure test chambers: State-of- the-art (A)F	54	(А)Л	67
of (A)Ag	65	Keller, R. B.		KEY, P. L.	
Optimizing linear vibration isolator sys-		Forced and self-excited oscillations in pro-		Strain energy release rate, The effect of	27
tems subject to random input, A new	-	pellant lines (A)0	75	yielding on the (A)F	57
Recipient of Franklin Institute's Louis E.	66	KELLEY, BENJAMIN S.		KEYES, E. J.	
Levy medalN	107	Appointed vice-president of sales at Air		Profile measurement of coated abrasive	
KAST, HOWARD B.		Preheater Co., Wellsville, N.YO	125	surfaces (A)My	100
Fluidic overspeed for a power turbine		Kelley, L. R.		KHATRI, H. C. Identification of distributed parameter	
(A)J	62	Hydraulic fluidies (A)Mr	63	systems using finite differences (A)	
KATO, S.		KELLNER, A. D.	-	Ар	
Prevention of chatter vibration in boring		Interpersonal relationships and the man-		Kind, G. J., Jr.	
operations, Some considerations on		agement of creativity (A)S	73	Temperature structure and heat transfer	
(A)My	100	KELLY, D. A. I.		characteristics of an electrically heated	
KATSANIS, THEODORE		Two-phase eccentric interface laminar		model of a seven-rod cluster fuel ele-	
Velocities and streamlines on a blade-to-		pipeline flow (A)0	74	ment, The (A)My	95
blade surface of a turbomachine, Pro-		KELLY, V. P.		Kieckhefer, Robert J., Jr.	
grams for computation of (A)Jl	66	Controlled environment storage facility		Named president of Litho-Strip Corp., a	
KATTCHEE, N.		for nuclear waste containers, A (A)		unit of AMSTED Industries, Chicago,	
Application of the piezoelectric effect for		Ар	63	ms	114
energy converters of the artificial heart	84	KEMBI.E, EDWARD D.		KIENZLE, O. (editor)	
program (A)Ap	54	Assigned to International Division of		Mechanische Umformtechnik (BR)0	90
KAUFFMANN, JOSEPH C.		Mine Safety Appliances Co., Pittsburgh,		KINEMATICS	
Receives Ralph R. Teetor educational fund award to attend January 1969 SAE		Pa., to be responsible for special proj-		Gross motion attributes of certain spa-	
International Automotive Engineering		ects related to overseas manufacturing activitiesAg		Kinematics of electrochemical machining	
Congress & ExpositionMr	101		100	On the (A)My	
KAUFMAN, B.		KEMPKE, W. Behavior of in vivo bone under cyclic load-		Spatial mechanisms with several degrees	
Mechanical heart assists, Development of		ing (A)S		of mobility by means of transmission	
(A)Mr	67	KENDALL, H. CLAYTON	111	functions, A kinematic investigation of	
KAUFMAN, R. E.		ObituaryMy	154	Spatial motion 1 — point paths of mech-	
Gas turbine sea salt problems and solu-		Venezur Ione F		anisms with four or fewer links (A)	
tions, History of (A)Jl		ObituaryN	111	anisms with four of fewer mass (A)	
KAUFMAN, W. J.			***	Symmetry of multiply separated positions	
Torsional properties of wire rope (A)O	79	KENNEDY, JAMES J. Named vice-president, marketing of Tri-		in coplanar motion, Conditions for (A))
KAYS, W. M.		Energy Corp., Homewood, IllJe			e 66
Heat transfer to the highly accelerated		Kennedy, L. W.	4097	King, John J.	
turbulent boundary layer with and with-		Longitudinal wave propagation in a cir-		Appointed product engineer, plate sales	
out mass addition (A)N	67	cular bar loaded suddenly by a radially		Lukens Steel Co., Coatesville, Pa	, 126
KAYTON, MYRON		distributed end stress (A)N	74	KING, KENNETH M., JR.	
Joins TRW, Inc., Redondo Beach, Calif.,	107	KENNEDY SPACE CENTER		Appointed vice-president special services	
as an advanced systems managerN	107	KSC: Spaceport for the moon		for Bird & Son, Inc., East Walpole	
KAZIN, S. B.	-	Part 1: Challenge and the means, The		King, Lyman S.	
Fan/compressor noise reduction (A)Jl	60	D. A. D. 11 N.		Obituary	p 00
KEAR, JAY L.		Part 2: Building a gargantuan assem-			- 60
Joins marketing management team at		World's largest building (C)I		King, R. J.	
General Automation, Orange, CalifN	101	Part 3: Gentle mammoth, TheAs		Correlation of gas turbine exhaust silence performance in the laboratory and is	
KEELEY, RICHARD W.		Part 4: Springboard to space	41	service (A)	
Receives ASME Ontario Section's E. A. Alleut award for 1968		Part 5: Loosening the terrestrial bonds		Kingsbury, E.	1110.00
	120			Gyroscope bearing cross-torque (A)	D 65
KEELING, K. B., JR.	TAT	Moon mission completed — and recorded			- 00
Induced convection effect upon the peak- boiling heat flux, An (A)		KENNER, V. H.		Kinney, C. A. Turbine compressor set in the close	4
The state of the s	9	Longitudinal impact on a hollow cone (A)	A STATE OF	cycle (AK process) system, Optimiza	
KEENE, CLAIR L. ObituaryF	89			tion of the (A)	

KINNEY, R. B.		KOLODTCEV, I. K.		Ku, P. N.	
Turbulent flow, heat transfer, and mass		Experimental investigation of heat trans-		Named 25th president of American Socie-	
transfer in a tube with surface suc-		fer in boiling dissociative liquid (A)N	67	ty of Lubrication EngineersAg	104
tion (A)N	71	KONDIC, N. N.		KUBIK, PAUL P.	
KINTIGH, L. A.		Lateral motion of individual particles in		Named vice-president and manager of	
Management and control of product engi-	68	channel flow — effect of diffusion and interaction forces: Part 1 — particle		manufacturing operations, Extracor- poreal Medical Specialties, Inc., Mount	
neering changes for automobiles (A)S KIRBY, N.	00	behavior as a function of systematic		Laurel, N.JAg	103
		motion (A)N	66	KUCHAR, N. R.	
Fracture initiation in low strength steel pressure vessels (A)D	59	KOPLIK, B.		Thick-walled viscoelastic model for the	
KIRCHMAYER, LEON K.		Diakoptics in the determination of turbine		mechanics of arteries (A)S	79
Elected ASME FellowMy	152	bucket frequencies by the use of pertur-		Kuh, Louis M.	
Kirk, E. Roger		bations, An application of (A)Ag	66	Appointed manager of new management	
Spark in spark ignition natural gas en-		Nonlinear vibrations of shallow spherical		services division of Peter F. Loftus	
gines, The (A)S	75	shells (A)N	74	Corp., Pittsburgh, PaJe	100
KIRKWOOD, ARTHUR C.		KORITES, B. J.		KULJIAN, HARRY A.	
Elected ASME FellowMr	102	Influence of dissipative heating on the loss		Elected chairman of the executive com-	
KISS, EDWARD	102	factor of a viscoelastically damped		mittee, Kuljian Corp., Philadelphia, Pa.	
Oscillating rectilinear fliud flow gener-		beam, The (A)Ag	64	S	114
ator (A)Je	67	KORNHAUSER, A. L.		KULKARNI, K. M.	
KIST, DANIEL III	01	Thermodynamic effects on desinent cavita-		Barreling as an example of free deforma-	
ObituaryAp	109	tion on hemispherical nosed bodies in		tion in plastic working, A study of	***
	102	water at temperatures from 80 to 260 deg F (A)O	74	(А)Му	100
KLINE, L. H.		Korrenn, H.	74	KUNKLE, ROBERT G.	
Organizing and structuring the functions				Appointed assistant superintendent of	
in the smaller engineering department	70	Axial load-carrying capacity of radial cylindrical roller bearings, The (A)O	85	River Rouge Power Plant of Detroit	99
(A)S	73	Koump. V.	00	Edison Co., Detroit, MichJa	99
KLINE, S. J.				Kunz, H. R.	
Technology and society (C)Jl	72	Effect of density change of the solidifica- tion of alloys (A)N	70	Liquid transport properties of some heat	
KLINKSIEK, W. F.		Kovalev, S. A.		pipe wicking materials (A)N	01
Simultaneous lateral skewing in a three-		Experimental investigation of heat trans-		Kuo, C. T.	
dimensional turbulent boundary-layer		fer in boiling dissociative liquid (A)N	67	Shallow arches on elastic foundations sub-	
flow (A)0	76	Kowaldo, Leonard J.	0,	jected to dynamical loads, On the final states of (A)Je	
KLEINTOP, DONALD R.		Appointed chief mechanical engineer at			00
Named superintendent of Maintenance		Engineers, Inc., Newark, N.JD	95	Kure, Carl J. ObituaryN	111
Planning Department, Lukens Steel Co.,		KRAFVE, RICHARD E.	••		111
Coatesville, PaAg	103	Named a member of board of directors		KURITA, H.	
KLESPIES, FRANK J.		of Scientific Advances, Inc., Columbus,		Prevention of chatter vibration in boring	
Appointed manager of international sales		OhioAp	97	operations, Some considerations on (A)	100
and engineering for McNeil Akron, Di-		KRAGLE, HARRY, A.			100
vision of McNeil Corp., in Akron, Ohio		Appointed manager of engineering for		KUSENBERGER, F. N.	
Ag	104	new businesses division of Corning		Magnetic perturbation inspection to im-	
KLOSTERMAN, ALBERT L.		Glass Works, Corning, N.Y.	113	prove reliability of high strength steel components (A)	68
Building block approach to structural dy-		KRAMER, L. B.			- 00
namics (A)Ag	63	Appointed engineering manager at West-		KUSHNER, ALBERT Appointed director of consulting services	
Kneisel, O.	00	inghouse Large Turbine Division, Les-		for Cresap, McCormick and Paget, Inc.,	
Effects of orifice plate eccentricity on		ter, PaS	114	New York, N.Y.	
flow coefficients, Experimental study		KRAMER, R. J.		KUSHNICK, WILLIAM H.	
of the (A)Je	62	Advanced features incorporated in the		Honored by U.S. Army with award in his	
Knitting		Miami County, Ohio, incinerator (A)		name to be presented annually to a De-	
		Му	108	partment of the Army civilian employee	,
New developments in circular knitting machine construction (A)S		KRAUS, H.		who has significantly advanced civilian	
	10	Buckling of an ellipsoid due to internal		personnel managementJe	99
KNOCKE, LOUIS T.	***	pressure (A)Mr	68	KUTHE, CHARLES H.	
ObituaryS	116	KRAUS, M.		Appointed product manager, heat transfer	
KNOCKING		Steam-hydrocarbon reformer furnace de-		products, Michigan Seamless Tube Co.,	,
Knock suppressor for large gas engines		sign (A)N	62	South Lyon, Mich	
(A)S	75	KRAUSE, L. N.		KUTTA CONDITION	
KNOX, A. E.		Venturi meter with separable diffuser (A)		Vorticity and Kutta condition for un-	
New technique for identifying linear sys-		Je	62	steady multienergy flows (A)	
tems, A (A)Ap		KRAUSE, WILLIAM A.		KUWAIT	
KNUDSEN NUMBERS		Named president and chief executive of-		Desalination plant for KuwaitMy	98
Wall attachment at high Knudsen num-		ficer, J. F. Pritchard and Co., Kansas		Kyropoulos, Peter	
bers: experimental results (A)0		City, Mo	126	Elected ASME Fellow	1 120
Kobayashi, S.		Киети, Г.			
Some steady-state plastic deformation		Inverse transition in radial diffusers (A)	-		
processes, A new upper-bound method		······································	66		
for analysis of (A)My		Krikwama, J.			
Kochanski, K. B.		Fossilectric ratio, The (A)F	61		
	- 00	KRISTOFFY, IVAN			
Condition monitoring (A)Jl	68	Metal forming with vibrated tools (A)		LABOR	
KOEHLER, PAUL G.		Ag	60	Even in England (C)My	, 111
Receives Sylvia W. Farny scholarship		Krokstad, Asbjorn		LABORATORIES	
award of ASME Woman's AuxiliaryF	77	Damping of cylindrical shells coated with		Deadly bubbles, The: cavitation to be	
KOELLIKER, ERNEST B.		viscoelastic materials, On the (A)Ag		studied at new UNDP-Indian laboratory	
Joins De Laval Turbine Inc., as vice-presi-			00	A	
dent and general manager of Turbine		KRONENBERG, M.		Laser lab for lease	
Division, Trenton, N.JJe	99-	Computerized determination and analysis		Sublimnos-I	
KOENIG, H. A.		of cost and production rates for ma-		struction	
Finite deflections of an elastic circular		chining operations:		Engineering method (C)	
plate with a central hole (A)0		Part 2 — Milling, drilling, reaming, and tapping (A)My		LADNER, C. M.	
KOERNER, D. R.			100	High temperature wastewater treatment	t
Stress concentration factors for U-shaped		KROPPER, HERMAN J.		process, A (A)J	
hyperbolic, and rounded V-shaped		Named president of Anderson-Nichols &		LAFAYETTE COLLEGE	
notches (A)		Co., Inc., Boston, MassJe	99	Lafayette to admit women	104
Kofskey, Miltin		KRUPKA, R. M.			104
Instrumentation used to define perform-		Bending-bending mode of a rotating tap-		LAFFERTY, EDWIN F.	¥ 111
ance of small size low power gas tur-		ered-twisted turbomachine blade includ-		Obituary	
bines (A)A		ing rotatory inertia and shear deforma-		LAI, J. S. Y.	
		tion (A)As		Behavior of nonlinear viscoelastic mate	
KOHAN, ANTHONY L.		Bending-torsion mode of a rotating ta-	1	rial under simultaneous stress relaxa	
Evaluating computer control in processes		pered-twisted turbomachine blade (A)		tion in tension and creep in torsion (A	

LALUDE, O.		LANGSTON, S. S.		LEATHERS, ROBERT W.	100
Cellular solar collectors, Design considera-		Liquid transport properties of some heat	-	Obituary	120
tions for (A)Mr	66	pipe wicking materials (A)N LANGWORTHY, Ross A.	67	LECKIE, F. A. Shakedown as a guide to the design of	
Emulsified fuel and fuel control systems		ObituaryN	111	pressure vessels (A)Mr	69
(А)Л	65	LaQue, Francis L.	***	LECROY, R. C.	
LAMB, ALBERT C.		Retires after almost 42 years of service		Temperature development in the entrance	
	108	with International Nickel Co. of Canada		region of an MHD channel, The solution	
LAMB, HENRY G.		Ltd.; firm renames its Harbor Island		of, by the B. G. Galerkin method (A)	96
Designated Fellow of Standards Engineers	A	Corrosion Laboratory for him as the	***	LEDEEN, HYMAN	-
SocietyJe	100		119	Receives ASME 50-year membership pin	
Appointed vice-president — engineering,		LARIONESCU, D. Complex harmonic analysis of plane mech-		XX	108
of White Motor Corp.'s Superior Di-		anisms. Programming on digital com-		LEDERER, JEROME	
vision, Springfield, Ohio	125	puters and experimental examples (A)		Appointed member of National Academy	
LAMBERT, E. R.		Ja	45	of Engineering committee on mine res-	100
Some steady-state plastic deformation		LARKIN, A. F., JR.		cue and survival, Washington, D.CO	126
processes, A new upper-bound method for analysis of (A)	101	Appointed president of Conveyor and Power Transmission Divisions of Rex		LEDLEY, R. D.	
LAMINARESCENT LAYERS	101	Chainbelt Inc., Milwaukee, WisJl	119	Force distribution on lower partial den- tures with symmetric saddles, Theoreti-	
Prediction of laminarescent turbulent		LARKIN, B. S.		cal analysis of (A)8	77
layers, On the (A)N	65	Evaluation of heat exchanger surfaces for		LEE, C. Soo	
LAMINARIZATION		use in gas turbine cycles (A)My	99	Influence of road-surface texture on tire-	
Bradshaw's hypothesis for laminarization, A note on (A)	65	LARKIN, DAVID ObituaryAp	103	road interface traction limits (A)D	61
Laminarization of a turbulent boundary	00	LARSEN, P. S.	100	LEE, E. H.	
layer in nozzle flow - boundary layer		Void fractions in subcooled flow boiling		Elastic filament reinforcement of a visco-	
and heat transfer measurements with		(A)N	69	elastic cylinder, On (A)N	76
wall cooling (A)	67	LARSON, C. S.		Wave-front analysis in composite materials (A)	74
Laminarization of a turbulent pipe flow by buoyancy forces (A)N	66	Predicting the oil film thickness in hydro-		LEE, J. S.	
Laminarization of turbulent flow in a	00	dynamically lubricated gears (A)Ap	53	Blood flow in lung alveoli models, Experi-	
circular porous tube with uniform mass		LARSON, HOWARD J. Joins Commonwealth Associates, Jackson,		ments on (A)Mr	66
injection through the tube wall (A)N	67	Mich., as project manager of Duane		LEE, L. SS.	
Numerical predictions for circular tube laminarization by heating (A)N	67	Arnold Energy Center nuclear project		Impulsively loaded elastic-plastic beams,	
LAMINATION	0.	S	113	Approximate solutions for (A)Je	66
Vibrations of a laminated body, On the		LASERS	4-	LEE, R.	
(A)Je	67	Charting the snail's nerve routesAp Giant lunar "pancakes"S	47 50	Reject heat and radiation from implanted	
LAMMERS, FRANCIS E.		Laser lab for leaseF	44	radioisotope sources, Studies of (A)	105
Appointed vice-president in charge of en-		Laser readerS	51	LEE, R. J.	100
gineering, Peabody Engineering Corp., Stamford, Conn	95	Laser to measure pollutionAg	80	Revisions in state laws (A)S	79
LANCE, R. H.	00	Laser wavelength — new length reference?	99	LEE, S. L.	
Bounding principle in the theory of work-		Miniature laser circuitsS	58	Vibratory motion of a body on an elastic	
hardening plasticity, A (A)O	81	New laser applications	57	half plane (A)Je	
Ellipsoidal heads, An evaluation of ASME	-	New multipurpose lasersAp	50	LEE, S. S.	
LAND, G. W.	69	Ten million watts pai	43	Shallow arches on elastic foundations	
Trials of additives for sulfur-dioxide re-		LASHER, ROBERT W. Joins Dalmo Victor, a Textron division,		subjected to dynamical loads, On the	
moval in industrial plants (A)D	58	as director of quality assurance and re-		final states of (A)Je	00
LAND, MALCOLM L.		liability, at Belmont, CalifAg	103	LEEMING, WILSON	
Elected vice-president of technical de-		LATHAM, ALLEN, JR.		Stress-corrosion cracking of AISI 52100 steel in turbine lubricant environments	
velopment, Studebaker - Worthington, Inc., New York, N.YF	85	Elected to National Academy of Engi-	110	(A)Az	
LANDBERG, G. G.	60	LAUNCH, MOBILE CONCEPT. See also	110	LEGISLATION	
Methods and procedures for testing sur-		RESTRAINT SYSTEMS		ASME boiler and pressure vessel code	
face aerators (A)S	79	KSC: Spaceport for the moon		adopted by Georgia	
LANDGRAF, R. W.		Part 1: Challenge and the means, The		Bills on pensions	122
Selecting materials to resist low cycle		Je		Congress needs answersMy	12
fatigue (A)S	68	Part 4: Springboard to space		Revisions in state laws (A)	72
LANDIS, FRED		(Ed)0		Tax exempt organizationsJe	85
Boundary-layer velocity distribution in turbulent swirling pipe flow, The (A)		LAUNDER, B. E.		Technology and society: Part 1 — public interest, TheAp	24
0		Accelerating turbulent boundary layers,		Social effects of technology (C)N	
LANDRAM, C. S.		An aspect of heat transfer in (A)My		Technology and society (C)J	
Heat transfer in turbulent pipe flow with		Bradshaw's hypothesis for laminariza- tion, A note on (A)		LEISSA, A. W.	
optically thin radiation (A)My LANG, FREDERIC A.	96	Prediction of laminarescent turbulent		Heterogeneous anisotropic plates, Analy-	
Protecting the public (C)	83	layers, On the (A)N		sis of (A)	81
LANGDON, HOWARD H.	00	LAVAN, Z.		LE MAY, I.	
Retires as vice-president and director of		Incompressible turbulent swirling flow in stationary ducts, Analytical investiga-		Effects of some gaseous environments or	
research, Curlator Corp., East Roches-		tions of (A)0		the creep of a stainless steel (A)Ag	10
ter, N.Y. continues as parttime con-		LAVERTY, ROSS M.	-	LEMAY, R. C. Gas in industrial processing, The role of	
sultantMi	101	Society support (C)0	92	(A)J	
Lange, E. A. Corrosion-fatigue crack propagation stud-	27.1	LAWN, C. J.		LEMON, JASON R.	
ies of some new high-strength struc-		Turbulent heat transfer at low Reynolds		Application of controlled mechanical im-	-
tural steels (A)A		numbers (A)N	73	pedance for reducing machine too	1
LANGE, KENNETH W.		LAWNMOWERS		Puilding block approach to structural dy	63
Elected a director of Chicago Bridge &		Automatic lawnmower0	60	namics (A)Aj	
Iron Co., Oak Brook, Ill	126	LAWSON, G. R.		LENHERR, F. K.	
LANGER, B. F.		Engineering parameters for new prod-		Correlations of turbine blade total-pres	
Protecting the public (C)	82	ucts, Developing (A)	67	sure - loss coefficients derived from	
Langford, David		LAXO, DARRYL E.	76	achievable stage efficiency data (A)I	
Centrifuge analysis — effects on sedi mentation coefficients of angular veloc		Wanted: society support (C)Ag	70	LENNEMANN, E.	
ity lag, of deviations from Stokes' lav	,	LAYSON, WILLIAM G., Jr. Obituary	116	Unsteady flow phenomena in rotating cen	
of drag, and of acceleration effects (A)		LEAD	-110	trifugal impeller passages (A)J	1 63
	64	Lead sandwich	50	LENSES	
LANGSTON, E. E.		Leasing	×	Critical pressure of spherical shell acryl ic windows under short-term pressur	
Distortion tolerance — by design instead of by accident (A)A		Lease financing, The functions of (A)Je	70	loading (A)	

LENZ, R. G.		LIGHT		stream generator, Case study in (A)	71
Roundness measurement	-	Use of light in design — infrared (A)S	67	Lisini, G. G.	••
Part 3 — Applying the standardD Roundness standard in use, The (A)	30	LIGHT-OFF	04		100
Roundness standard in use, The (A)	53	Flueric light-off detector (A)Jl	64	LITERATURE. See also ASME PUBLICATIONS;	
LEONARD, J. E.		LILLY, CLYDE A., JR. Appointed president of Southern Services,		ASME TECHNICAL PAPERS; BOOK	
Thermal response of a reactor fuel assem-		Inc., Birmingham, Ala., a subsidiary of		REVIEWS; CODES AND STANDARDS;	
bly cooled by flooding under loss-of-		Southern Co., Atlanta, GaAp	97	Engineering Societies Library;	
normal-coolant conditions (A)Ap	62	LIMESTONE		TECHNICAL DIGEST	
LEONDES, C. T.		Capture of sulfur dioxide by limestone and	**		109
Sensitivity in multivariable control sys- tems (A)Ap	60	dolomite, Basic factors in the (A)D STAKRAKE — concept in bulk materials	58	ASME standard—control of dust emis-	
LEONTIEV, A. I.	90	handling (A)D	57	sionAp	79
Impairment of turbulent convection heat		LIMNOLOGY		Automatic control, proceedings of 1969 joint conference	114
transfer at supercritical pressures at		Sublimnos-IMy	122	Catalog for Museum of Modern Art ex-	
forced flow of fluid in the vertical chan-	-	Lin, Y. K.		hibit on The Machine as Seen at the	
nels, To the question of the (A)N	65	Dynamics of beam-type periodic structures		End of the Mechanical AgeMy	127
LEOPOLD, P. M. Elastic-plastic stress distribution in a		(A)Ag	61	Clearinghouse for Federal, Scientific, and	
compressed ring (A)Mr	72	LINAC	90	Technical InformationJa 30; Mr 50; Ap 38; My 86; Je 48;	
LESPERANCE, ANDRE		Super scrubberS LINDBERG, E. E.	30	JI 48; Ag 46; S 54; O 62; N 46; D	44
Appointed industrial marketing engineer		Effects of mechanical and electrical filter-		Compressed air & gas dataN	89
at Dorr-Oliver, Inc., Stamford, Conn.		ing on roundness measurements (A)		Engineering films, A notebook of0	107
N	107	Ар	52	Engineering index annual (1967 edition)	87
LESSER, M. L.	110	LINDEN, HARRY A.		Formulations for the properties of steam	-
Metric, metric (C)My LESSO, W. G.	110	Wins first prize in ASME's 8th design	104	Je	79
Offshore oil fields, Optimization studies		problem contest, 1969S LINDEROTH, L. S., JR.	104	Government publications	89
in the development of (A)N	60	Hypo-hyperbaric chambers for medical		Grant for designers manualO Heat transfer, papers of 11th national	105
LETENDRE, R. P.		centers, The design of (A)S	73	conference (1969) published by ASME	
Influence of inlet geometry on flow in the		LINDHOLM, U. S.		as "Two-phase Flow Instrumentation"	
entrance region of a nuclear reactor		Effect of temperature gradients on the		0	118
rod bundle (A)My	97	propagation of elastoplastic waves (A)		Keep Informed (new equipment, business	
LeTourneau, Robert G.	100	Je	65	notes, latests catalogs)Ja 109; F 95; Mr 111; Ap 109; My 157; Je 109;	
ObituaryAg LETTERS AND COMMENT	108	LINDSEY, J. R. Methods for balancing high-speed rotors.		JI 127;; S 119; O 133; N 117; D	113
Ja 48; F 63; Mr 74; Ap 67; My 110;		Significant developments in (A)Ag	62	Literature related to problems of gas	
Je 72; Jl 71; Ag 75; S 82; O 90;		LINEAR MOTION ASSEMBLY	-	embolism in human body, Survey of	-
N 77; D	67	Rating life of a linear motion assembly		(A)	79
LETTS, ROGER W. M.		(A)	84	(Ed)0	25
Computer scheduling and simulation sys-		LINEAR SYSTEMS, See SYSTEMS, LINEAR		New catalogs guide to latest industrial	
tem (A)Ag	73	LING, FREDERICK F.		literatureAg	113
LEUDEMANN, ALBERT V. Obituary	100	ErrataD	93	New periodicals and publicationsMr 87;	or.
LEVERETT, FRANK M.	100	LINKAGES		My 127; Je 79; Jl 87; Ag 87; S 87; D Optical alignment manualS	85 54
Obituary	111	Balancing a planar mechanism with vari- able mass links (A)Ja	45	Orientation for Company Metric Studies	
_	111	Balancing of the fluctuating input	40	(Mechanical Products Industry)S	97
LEVINE, GERALD Elected president, Access Floor Manufac-		torques caused by inertia forces in the		Proposed: more ASME authors (Ed)Mr	19
turers Assn., Baltimore, Md	126	crank-and-rocker mechanisms, On the		Salaries of Scientists, Engineers, and Technicians — A Summary of Salary	
LEVY, LOUIS E., MEDAL		4-bar linkages adjustable for several ap-	45	SurveysAg	87
Franklin Institute awards medal to Dean		proximate straight-line motions of a		Scientific and Technical Communication:	
KarnoppN	107	coupler point, Synthesis of (A)Ja	45	A Pressing National Problem and	00
LEVY, M. J.		Symmetric overconstrained linkages (A)	400	Recommendations for Its SolutionD Standard Boiler Operators' Questions and	83
Pressure attenuation in long rarefaction		Synthesizing the four-bar crank-rocker	45	AnswersD	83
wave tubes (A)Je	61	mechanism, An analytical method for		Thesaurus of Engineering and Scientific	
LEVY, SAMUEL		(A)Ja	46	TermsJl	87
G-limiting attachment for equipment (A)		Lino, C. L.		LITTLE, R. W.	
TAg	62	Passively cooled containment structure,		Rheological properties of canine anterior cruciate ligaments (A)	
LIABILITY TO THE PARTY OF THE P	-00	The design of a (A)Ap	62		
Liability company formedF NSPE liability policyJe	68 84	Lins, W. F. Vehicle vibration analysis using frequency		Liu, C. K.	
LIBER, THEODORE		domain techniques (A)Ag	65	Turbulent natural convection boundary layers, An experimental study of (A)	
Effect of airflow on the behavior of foam		LINSTED, ROBERT D.		N	73
as a dynamic element in shock and		Receives Sylvia W. Farny scholarship		Liu, C. S.	
vibrations, The (A)Ag	66	award of ASME Woman's AuxiliaryF	77	Meteorological and hydrological drought	
LICH, R. L.		LIQUEFIED NATURAL GAS		in Raritan River basin in New Jersey	
Progress in railway mechanical engineer-	ro	Gas turbine propulsion for LNG tankers		(A)S	79
ing, 1967-1968 (A)P	52	(A)		Liu, C. Y.	
LICHT, L.		**************************************	60	Transient heat conduction with time de- pendent boundary conditions (A)N	
High-speed rotors supported by air-lubri- cated oil bearings, An experimental		LNG piping supported in a flexible wharf		Liu, H. W.	
study of —		Design of (A)N	63	Stress induced diffusion and stress corro-	
Part 1: Rotation in pressurized and		LIQUIDS. See also PHYSIOLOGY		sion eracking (A)Ag	
self-acting foil bearings (A)D		Blood flow in lung alveoli models, Ex-		Lru, J. Y.	
Part 2: Response to impact and to periodic excitation (A)	60	periments on (A)	66	Stress concentration around a furrow	,
LIEBERMAN, DAVID A.	00	stabilized polar liquids, on stress corro-		shaped surface defect in rolling con-	
Named vice-president — manufacturing of		sion and fatigue resistance on metals		tact, An analytical study of the (A)D	62
Martin & Nettrour Contracting Co.,		(A)A		LIVINGSTON, HART L.	
Pittsburgh, Pa0		Electrohydraulic power systems for use in artificial heart and circulatory as-		ObituaryJe	104
LIENHARD, J. H.		sist devices, Development of (A)A		LIVINGSTON, ROBERT T.	
Induced convection effect upon the peak-		Experimental investigation of heat trans-		Obituary	124
boiling heat flux, An (A)N	72	fer in boiling dissociative liquid (A)N		LLORENS, R. E.	191
Lieser, J. E.		Hydrodynamic character of burnout in channels, On (A)		Finite deflections of an elastic circular plate with a central hole (A)0	
Development of grease-lubricated tapered		Linearized wave propagation models for		LLOYD, EDWARD C.	50
roller bearings for high-speed rail trans- portation (A)		arterial blood flow analysis, Compari		Elected ASME FellowMr	10
LIFT	00	son of (A)		LLOYD, J.	
Compressor or pump stage for fluctuat-		Liquid transport properties of some hea pipe wicking materials (A)		Using remote radio controls in redesign	70.1
ing lift, The quasi-steady design of a		Mitigating hydrogen damage and liqui-	1	of crane materials-handling systems at	t
(A)Je	64	phase corrosion in an electrical utility	7	Lockheed-Georgia Company (A)D	54

LOADS AND LOADING		Logic	4	Elastic contact of a hollow ball with a flat	STO.
Axial load-carrying capacity of radial cylindrical roller bearings, The (A)O	or	Home-based computers	58	plate, Analysis of the (A)O Elastic support for a large roller bearing,	84
Behavior of in vivo bone under cyclic	85	Predictive logic control of an on-off sys-	64	Design and load rating analysis of the	-
loading (A)	78 43	tem with one simple sensor (A)Ap	60	Elastohydrodynamic film thickness in an	85
Bonded elastic mounts under combined loading of shear and normal forces (A)		Nonmechanical solids flow control device		elliptical contact, A numerical solution of the (A)	87
Depth of permanent indentations in flat	65	in the waste calcining facility, Experi- ence with (A)Js	44	Elastohydrodynamic lubrication of a spin- ing ball in a nonconforming groove (A)	
plates due to loaded cylindrical rollers (A)	83	Longevity		Elastohydrodynamic lubrication of roller	85
Diffusion of load from a transverse ten-	-	Plastics life spanMy	89	bearings (A)	65
sion bar into a semi-infinite elastic sheet, On the (A)Je	65	Metric, metric (C)My	110	tween two cylinders in normal approach	
Ductile creep rupture of shells with strain hardening and time-dependent loading		LOPINA, R. F.		Elastohydrodynamic theory of spherical	64
(A)Mr	71	Heat transfer and pressure drop in tape-		bodies in normal approach (A)0	86
Dynamic loads caused by vehicle-track interaction, A computer study of (A)		generated swirl flow of single-phase water (A)My	99	Finite element solution of the steady- state compressible lubrication problem	
Elastic deformation of a circular rod of	72	LoPresti, R.		(A)	64
finite length for an axially symmetric	-	Live-floor trailer self-loading/unloading system (A)D	56	ment ball bearings in a controlled en-	0.4
end face loading, The (A)O Elastic support for a large roller bearing,	80	Lorenz, J. H.	•	vironment (A)	84
Design and load rating analysis of the	85	Effect of thermocapillary flow on heat		ball bearings (A)	86
Electrodynamic oscillating compressors	00	transfer in dropwise condensation, The	71	in cyclically stressed 52100 steel, A	-
Part 1 — Design based on linearized loads (A)O	74	Loss, F. J.		Gyroscope bearing cross-torque (A)D	65
Part 2 - Evaluation of specific de-		Temperature transition from linear elas- tic to gross strain fracture conditions,		Helical-grooved journal bearing operated	61
signs for gas loads (A)0 Exact transient response of an elastic	76	Dynamic tear test definition of the		in turbulent regime (A)	01
half space loaded over a rectangular re- gion of its surface (A)N	74	(A)Je	63	cated oil bearings, An experimental study of —	
Friction-induced heating in axially loaded		Louis, J. E. Dual mode hydromechanical transmission		Part 1: Rotation in pressurized and	20
Impulsively loaded elastic-plastic beams,	86	as applied to gas turbines (A)Jl	67	Part 2: Response to impact and to	63
Approximate solutions for (A)Je Live-floor trailer self-loading/unloading	66	Louvier, D. L.		periodic excitation (A)	60 51
system (A)D	56	Anhydrous ammonia — metering (A)N LOUZADER, J. C.	64	Hybrid boost bearing, The - a method	
Load and stability analysis of tubular strings (A)	64	Pressure-balanced hydrazine fuel cell for		of obtaining long life in rolling con- tact bearing applications (A)D	64
Load ratings and fatigue life prediction		deep submersibles, Development of a prototype (A)	70	Hydrodynamic journal bearings, Optimum	
for ball and roller bearing (A)O Longitudinal wave propagation in a cir-	85	LOVELL, E. G.		design of (A)	53
cular bar loaded suddenly by a radially distributed end stress (A)N	74	Nonlinear response of a cylindrical shell		Incompressible lubrication problem, Fi-	52
Multiple-disk brakes and clutches during		to an impulsive pressure (A)0	80	nite-element solution of the (A)0	86
engagement, The interfacial load dis- tribution and total transmitted torque		Lowe, Jerry Mass producing self-acting gas bearings		Influence of flexibly mounted rolling ele- ment bearings on rotor response	
of (A)Mr	70	for gyrosS	32	Part 1 — Linear analysis (A)0	83
Performance of the orifice-compensated hydrostatic face seal under pressure		Lowrey, G. H. Infants and children in the adult world of		Influence of inertia forces in turbulent and laminar self-acting films, On the	
and thermal loading (A)Ap Response of a viscoelastic annulus to a	52	automobile safety design: pediatric and		(A)D	64
step transverse load (A)D	61	anatomical considerations for design of child restraints (A)S	78	Influence of road-surface texture on tire- road interface traction limits (A)D	61
Shallow arches on elastic foundations sub- jected to dynamical loads, On the final		LOYD, R. W.		Influence of structural support upon roll-	
states of (A)Je Silo loads in measuring models, Investi-	66	Waukesha model L1616DSIN diesel en-	75	ing element bearing performance, A general method for predicting the (A)	
gation of (A)Ja	44	Lubricants and Lubrication		Influence of surface roughness on the	84
Skidding in lightly loaded high-speed ball thrust bearings (A)O	86	Axial load-carrying capacity of radial	1111	mechanism of friction, The (A)D	63
System planning and optimum load dis- patch for nuclear power plants (A)Ap	61	cylindrical roller bearings, The (A) O Composite materials development for cry-	85	Load ratings and fatigue life prediction for ball and roller bearings (A)O	85
Tensile failure of viscoelastic materials		ogenic bearing retainers (A)Ap Conditions for the rupture of a lubrica-	53	Long life, lightweight lubrication - sys-	
under multiaxial loading, Description of (A)Ap	66	tion film		tems for high speed machinery (A)S Lubricated direct-extrusion process of	71
Timoshenko beam with a moving load, The (A)Je	65	Part 1: theoretical model (A)D Controlling the film thickness in self-	64	high-strength and high-melting-point	
Transient excitation of an elastic half	00	acting foil bearings, On (A)D	62	materials, with isothermal surface of die and container, A study of (A)D	63
space by a point load traveling on the surface (A)N	75	Depth of permanent indentations in flat plates due to loaded cylindrical rollers		Mass producing self-acting gas bearings	
Traveling loads in a cylindrical bore, Re- sponse of an infinite elastic medium to		Development of a pneumatic sensor for	83	Maximum principle approach to the opti-	32
(A)0	83	measuring the torque of instrument	84	mum one-dimensional journal bearing,	**
LOCK AND RELEASE		Development of grease-lubricated tapered	04	Optimum stiffness of externally pres-	63
Boydbolt simple-release fastenerMy	87	roller bearings for high-speed rail trans- portation (A)	65	surized thrust bearings in turbulent	69
LOCKHEED MISSILES & SPACE Co. Lockheed donates "big dish" to Pacific		Development of polybenzimidazole bonded		regime (A)D Performance of the orifice-compensated	62
Union College for radio astronomyJe	76	solid-film lubricants (A)	65 45	hydrostatic face seal under pressure and thermal loading (A)Ap	52
LOCKIN, DAVID W. Co-author with Richard E. Barrett of		Dynamically loaded journal bearings: maximum film pressure (A)Ap	53	Pivoted plane pad bearings: a variational	02
paper receiving Willis H. Carrier award	0.7	Dynamics response of a double squeeze-		solution (A)	64
LOCKWOOD, F. C.	95	film thrust plate (A)		Predicting the oil film thickness in hydro- dynamically lubricated gears (A)Ap	53
Accelerating turbulent boundary layers,		motion in a lubricated roller bearing, The (A)		Quality assurance requirements for dry-	41
An aspect of heat transfer in (A)My LOCOMOTIVES	97	Effect of three advanced lubricants on		lubricated ball bearings (A)D Rating life of a linear motion assembly	61
Quadri-current locomotiveS	64	high-temperature bearing life (A)0 Effects of combined shearing and stretch-		(A)	84
LOEWEN, ERWIN C.		ing in viscoelastic lubrication (A)D Effects of forced-feed lubrication on per-	61	Resistance against cavitation erosion of 14 chromium steels (A)D	61
Elected ASME Fellow	115	formance characteristics of full finite		Response of a viscoelastic annulus to a	-
LOGAN, J. M. Propulsion gas turbine experience on the		journal bearings, The (A)		step tranverse load (A)	01
Coast Guard Hamilton class high en-		ing on roundness measurements (A)	91	balance and lubricant temperature	-
durance cutters (A)Jl	02		52	changes (A)D	- 00

UBRICANTS AND LUBRICATION		Lutz, John O.		systems with "pressure-drop" oscilla-	-
(Continued)		Joins McCord Corp., Detroit, Mich., as		Maximum principle approach to the opti-	70
Rolling friction		president of Replacement Products Di-	99	mum one-dimensional journal bearing,	
IV — Additional car wheel experiments	00'	LUX. WILLIAM J.	99	The (A)D	63
Roundness measurement	86	Named vice-president of engineering for		MADLE, WAYNE	
Part 1 — Importance and interrela-		Westinghouse Air Brake Co., Peoria,		Promoted to chief engineer, mechanical	
tionships O 26; (C) (D) (AC) D	67	IIIJa	99	division, Bodine Electric Co., Chicago,	108
Roundness as related to other meas-		LYMAN, F. A.		IIIN	107
urements (A)Ap	52 36	Temperature distributions in heat pipe		MADONNA, M. A.	
Part 2 — The proposed standardN Part 3 — Applying the standardD	30	wicks, Analysis of (A)	87	Environmental effects on pure fluid am-	65
Roundness standard in use, The (A)		LYMAN, R. S.		plifiers, Investigation of (A)Mr	00
Ар	53	Propane thermodynamic property equa- tions (A)Je	60	Mafi, Sharif Vibrations in high-speed rotating ma-	
Salt effects in mucin lubrication (A)O	83	LYONS, WILLIAM CLAYPOOL		chinery, Experimental investigation of	
Skidding in lightly loaded high-speed ball thrust bearings (A)O	86	Joins staff of Los Alamos Scientific		(A)Ag	66
Simulation of ball-bearing lubrication	00	Laboratory, Los Alamos, N.MS	114	MAGNETOELASTICITY	
with a rolling-disk apparatus (A)0	84			Noncontacting torquemeters utilizing mag-	
Squeeze film between rotating annuli, An				netoelastic properties of steel shafts	
investigation of the (A)	64	M .		(A)	67
ternally pressurized air-lubricated jour-		m		MAGNETOHYDRODYNAMICS	
nal bearings (A)D	61	Maas, L. M.		MHD: the road ahead (Ed)Ag MHD power generation: current status	13
Stress concentration around a furrow		Allison model 501-K14 gas turbine 1000-		MHD power generation: current status	18
shaped surface defect in rolling contact, An analytical study of the (A)D	60	hr saltwater ingestion test (A)Jl	62	Report by MHD subcommittee of ASME	
Stress-corrosion cracking of AISI 52100	62	MABIE, H. H.		energetics division (A)My	105
steel in turbine lubricant environments		Development of a pneumatic sensor for		Operating coal-fired, open-cycle MHD	105
(A)Ag	70	measuring the torque of instrument ball		systems at low air/fuel ratios (A)My	100
Tapered roller thrust bearings with vari-		bearings (A)	84	Magnets and Magnetism Bubble circuitryN	55
ous lubricating systems, High-speed performance of (A)	83	ment ball bearings in a controlled en-		Metering the magnetic momentJa	
Thermal behavior and friction in journal	00	vironment (A)0	84	New laser applications	
bearings (A)D	61	Массиі, Е.		Optically exciting a magnetic memoryO	63
Vacuum evaluation of lubricants and tech-		Thermodynamic properties of carbon di-		Transport processes in magnetosolidme-	81
niques for space-exposed components (A)D		oxide in the range 0-150 deg C, Com-	an	chanics-adiabatic conditions (A)O Vibration and dynamic instability of a	01
Wear equation for bonded solid lubricant	62	macdonald, Donald M.	68	beam-plate in a transverse magnetic	
films, A: estimating film wear life		Appointed district engineer for Austin		field (A)0	80
(A)D	64	Co.'s Eastern district, Roselle, N.JO	126	World's largest superconducting magnet	46
Zero-load stability of rotating externally		MACGREGOR, R. K.			40
pressurized gas-lubricated journal bear- ings (A)D	60	Free convection through vertical plane		MAGUIRE, THOMAS, H., JR.	
LUCAS, ANTHONY F., GOLD MEDAL	00	layers—moderate and high Prandtl	07	Appointed director of marketing for Com- munitype Corp., New York, N.YF	85
AIME awards 1969 medal to Clarence J.		number fluids (A)My MACHINES, GROUND-EFFECT	97		00
CoberlyJe	99	HovertruckO	70	MAHLMEISTER, J. F. Reactor arrangement for a piped liquid	
LUCHTER, STEPHEN		Machines and Machinery		metal-cooled fast breeder reactor (A)	
Advanced steam turboalternator for nu-		Automatic lawnmower0	60	Ар	
clear applications, Design of an (A)Jl	64	Contour tracing machineN	44	Манмоорі, Р.	
LUDEMA, K. C.		Foundations and mountings for recipro-		Rotating disk of nonuniform thickness,	
Influence of road-surface texture on tire-		cating machinery, Design of (A)S Long life, lightweight lubrication — sys-	75	On the design of a (A)	8 67
road interface traction limits (A)D	61	tems for high speed machinery (A)S	71	MAINE	
LUEBS, AUGUST A.		Museum of Modern Art exhibit catalog		Maine action plan	69
Receives ASME 50-year pinS	113	on The Machine as Seen at the End of		New England "burns"Je	
Luikov, A. V.		the Mechanical AgeMy New developments in circular knitting		No solution (C)	
Application of irreversible thermody- namics to heat and mass transfer in gas		machine construction (A)S		MAINTENANCE. See also PLANT ENGINEERI Chemical plant maintenance management	NG
suspension (A)	65	Paper jam releaseF		A concept for (A)N	
LUNAR TECHNOLOGY	-	Vibrations in high-speed rotating ma-		Computer scheduling and simulation sys-	
"A" eye aids space linkupMy	85	chinery, Experimental investigation of (A)Ag		tem (A)	
Finer than frog hair	44	MACHINING	66	Design and application considerations ef-	
Giant lunar "pancakes"S	50	Biaxial residual surface stresses from		fecting industrial gas turbine maintenance (A)	
KSC: Spaceport for the moon Part 1: Challenge and the means, The		grinding and finishing machining 304		Effective engineering management (A))
Je	11	stainless steel determined by a new dis-		······································	g 73
Part 2: Building a gargantuan assem-		section technique (A)F		Evaluating computer control in processes	
bly line	35	field valves (A)N		Industrial truck safety operation and	
Part 3: Gentle mammoth, TheAg	67 35	Interferometer control of cutting depth	1	maintenance of industrial trucks (A))
Part 4: Springboard to space	41	Ag			e 68
Part 5: Loosening the terrestrial bonds		Kinematics of electrochemical machining, On the (A)		Iron deposition and well fouling at Brook	F 61
0	47	Microfinishing: a precision machine opera-	103	haven National Laboratory (A)	
Moon mission completed — and recorded (Ed)0	25	tionN		Maintenance-free roof	
Lunar-based A-powerMy	84	Vibrations and fracture in the machining		"New" plant maintenance engineer (a	
Lunar pogoF	43	of plastics (A)Ap	66	viewed by one in transition), The (A) 05
Men on the moon	43	MACKAY, ROBIN		Planning for effective results (A)A	N 65
"Professionalism" (C)O Target: the moon (Ed)Je		Gas turbine as a source of continuous precise power, The (A)		Planning for effective results (A)	
Apollo 11 (C)	94	MACKENZIE, E. DUNCAN	3.	for an engineering design group, De	-
Tektites from TychoN	53	Obituary	100	velopment of a (A)	
Vibration monitoring 0 40; (A) Ag		MACKENZIE, S. T.		Plant engineer's impact upon safety (A	
Weight shaverS	53	Retrise as vice-president of Babcock		Practical maintenance planning and per	
LUNDIN, C. D.		Wilcox Co. Power Generation Division,		formance evaluation (A)A	E 74
Very-short-time, very-high-temperature creep rupture of type 347 stainless steel		MacMaster, Ronald K.	113	Proprietary plant protection systems (A)
and correlation of data (A)	71	Obituary	89	Utilities: scheduling maintenanceJ	
Lundin, R. S.		MACWATT, KENNETH H.	-	Vibration monitoring (A)A	
Controlling electric motor speed (A)S	74	Named manager of sales of power piping		MALCOLM, MICHAEL A.	
LUNNEY, EDWARD J.		for M. W. Kellogg Co., New York, N.Y.		"Nonpersonal" air pollution	N 77
ObituaryN	111		99	MALLAIRE, F. R.	
LUTCHANSKY, M.		MADAY, C. J.		Wear ring seals for high-speed, high-pres	
Bent submarine cables, Axial stresses in armor of wires (A)		Dynamic programming approach to sta- bilize forced-convection two-phase flow		sure turbopumps, Evaluation of (A	

MALLETT, R. H.		MANUALS. See LITERATURE		MARSHALL, R. C.	
Elastic-plastic analysis of flat plates by		MANUFACTURING		Influence of inlet geometry on flow in the entrance region of a nuclear reactor	
the finite element method (A)Mr	67	Technical innovation - key to manu-		rod bundle (A)	97
MAMOUN, M.		facturing successJl	19	MARTA, H. A.	
Effects of axial vibrations on frictional	100	MARAIS, G. VAN R.		Wheel-rail adhesion (A)F	53
losses in gear systems (A)Ag	61	Stresses in wedges of cohesionless mate-		MARTIN, H. J.	
MANAGEMENT. See also EXECUTIVES		rials formed by free discharge at the		Disposal of metal bearing wastes - treat-	
Avalanche: the cities and the 70'sJe	32	apex (A)Ja	44	ment alone is not enough (A)Je	60
He played the game (C)Mr	74	MARCAL, P. V.		MARTIN, J.	
Chemical plant maintenance management,	65	Elastic-plastic analysis of flat plates by		Getting and using feedback of informa-	
A concept for (A)	13	the finite element method (A)Mr	67	tion for design changes (A)	74
Computer-aided systems approach to per-	10	Marcus, M.		MARTIN, J. B.	
sonnel administration, On a (A)Ap	57	Oxygen dynamics and economic growth in		Impulsively loaded elastic-plastic beams,	
Effective engineering management (A)	••	the Millstone River (A)S	80	Approximate solutions for (A)Je	66
Ag	73	MARGOLIS, D. L.		MARTIN, L. P.	
Elusive professionalism (C)Mr	75	Small-amplitude frequency behavior of		Moiré method for measuring large plane	
Forecasting of technology in industry, A		fluid lines with turbulent flow (A)O	76	deformations, The: general theory and	
framework for (A)Ap	57	MARINE ENGINEERING		application to homogeneous deformation	76
Impact of effectiveness concepts on the project manager (A)Ap	56	Allison model 501-K14 gas turbine 1000-		MARTIN, WALTER H.	
Interpersonal relationships and the man-	00	hr saltwater ingestion test (A)Jl	62	Named vice-president, engineering, Ox-	
agement of creativity (A)S	73	Gas turbine propulsion fon LNG tankers		ford Pendaflex Corp., Garden City, N.Y.	
Management and control of product engi-		(A)	66	0 126; N	107
neering changes for aircraft (A)S	68	Hot-corrosion-resistant alloys for marine applications, Progress in the develop-		MARTINI, W. R.	
Management and control of product engi-		ment of (A)	61	Stirling engine module to power circula-	
neering changes for automobiles (A)S	68	Marine boilersAg	57	tory assist devices, A (A)Ap	54
Management and control of product engi-		Northwest Hydrofoil Line's hydrofoil ship		MARTO, P. J.	
neering changes — data processing equipment (A)	68	Victoria gas turbine main propulsion		Effect of nucleate boiling on the opera-	
Management planning to avoid techno-	00	system (A)	69	tion of low temperature heat pipes (A)	
logical obsolescence of engineering and		Olympus powered Brown Boveri gas tur-		Ö	87
scientific personnel (A)Ap	56	bine machinery of the Finnish Navy 700		MARTYN, WILLIS S.	
Management program at PIB	104	ton gunboat, Experience with the (A)	69	ObituaryJe	104
Management systems in the 70'sN	19	Propulsion gas turbine experience on the	00	Marui, E.	
Marketing for fully optimized product		Coast Guard Hamilton Class high en-		Prevention of chatter vibration in boring	
selection, A graphical aid for (A)Ap	87	durance cutters (A)Jl	62	operations, Some considerations on	
New breed, A: the engineer-managerD Engineer-manager in the nuclear age,	14	Propulsion systems for DDH-280 class gas		(A)My	100
The (A)Ap	57	turbine destroyers, Description of (A)		MASON, WENDELL E.	
New breed, A: the industrial project man-	01		62		111
ager (A)Ap	57	Vibration and noise characteristics of an		Mass Flow	
New devices for managing the product		aircraft-type gas turbine used in a ma-	60	Errors in sonic nozzle mass flow measure-	
developing process (A)Ap	56	rine propulsion system (A)	00	ments at high supply pressures and	
Nine commandments, The (Ed)Ap	17	MARKARIAN, SHIMAVON P. A.		moderate temperatures due to real gas	
The commandments (C)	73	Appeal for engineers (C)F	63	effects (A)Je	62
Organizing and structuring the functions		Marketing		Mass flow measurement of particulate	
in the smaller engineering department	73	Coordinating engineering, manufacturing,		material (A)D	56
(A)	73	and marketing of new products with		MASS TRANSFER	
Systems engineering: the role of relia-		simplified PERT/CPM (A)S	68	Application of irreversible thermodynam-	
bilityJa	10	Marketing for fully optimized product selection, A graphical aid for (A)Ap	57	ics to heat and mass transfer in gas	
Tomorrow's technology: the management			0.	suspension (A)N	65
outlook (A)Ap	56	MARKLAND, E.		Laminarization of turbulent flow in a	
Unification of engineering eceonomy: the		Performance of two annular diffusers,		circular porous tube with uniform mass	
need and a suggested approach (A)Ap	56	The effect of inlet conditions on the (A)Mr	63	injection through the tube wall (A)N	67
MANAS, VINCENT T.			00	Synthesizing mass meter for granular materials using momentum equations of	
ObituaryMy	154	Marks, C. H.		variable mass system (A)Ja	
MANI, RAMANI		Entrainment of water by stream of suc-		Turbulent flow, heat transfer, and mass	
Discrete frequency noise generation from		cessive air bubbles, An investigation of the (A)	104	transfer in a tube with surface suction	
an axial flow fan blade row (A)O		New breed, A: the industrial project man-	104	(A)N	71
Manifolds		ager (A)Ap	57	Massey, J. L., Jr.	
Analytical techniques for evaluation of		MARKS, JERRY L.		Stagnation pressure losses of compres-	
compressor-manifold response (A)N	63	Promoted to group manager, plant ser-		sible fluids through abrupt area changes	1
Two types of resonance in intake tuning,		vices and utilities, at Woodmar plant of		neglecting friction at the walls (A)Mr	65
The (A)S		Marbon Division, Borg-Warner Chemi-		Massier, P. F.	
Manikowski, A. F.		cals and Plastics Group, Washington,		Laminar, transition and turbulent bound-	
Pressure-balanced hydrazine fuel cell		W. VaF	85	ary-layer heat-transfer measurements	
for deep submersibles, Development of		MARLOWE, DONALD E.		with wall cooling in turbulent airflow	
a prototype (A)JI		As the president sees it		Laminarization of a turbulent boundary	
Man-in-Sea		Learning — on the RAC circuit0	89		
Mini subS	61	Problem or dilemma?N	112	layer in nozzle flow — boundary layer and heat transfer measurements with	
Man-in-Space		"The paranoid style"S		wall cooling (A)N	
Manned aerospace simulation (A)S	74	Moral considerations of the engineering teacher involved in government research		MASSOUD, M. F.	
Manipulation		(A)S		Oscillating conveyors, On the design of	
Handy maneuvers		Prometheus unboundN		(A)	
	61	Technology and society:	-	MAST, BURTON T.	
MANJOINE, M. J.		Part 1 — public interest, TheAp	24	Appointed to U.S. Department of Trans	-
Joins Westinghouse Research Labora- tories, Pittsburgh, Pa., as consultant		MARQUAND, KENNETH EARL		portation's Technical Pipeline Safety	
to mechanics department		ObituaryMy	154	Standards Committee to help frame	
	200	MARQUIS, FRANKLIN WALES		safety standards for transporting ga	
Manning, G. B.		Elected ASME FellowMy	152	by pipelineA	
Small closed Brayton cycle turbine-com-				MASTER, G. L.	
pressor set for nuclear application, The redesign and simulated test of a (A)		Mars		Protecting the public (C)	8 82
redesign and simulated test of a (A)		Thermal profile of MarsAg	50	MASTRO, G. N.	
	-	MARSCHALL, E.		Engineering problem of ski safety, Th	
Man-on-Moon. See Lunar Technology		Binary, gravity-flow film condensation		(A)	
Manpower		(A)M)	98	Materials	
Big dollar, The (compensation programs	8	MARSH, ROBERT H.		Garbage block, The: a new building mate	
for engineers)		Joins Rohm and Haas Co.'s engineering		rial	
He played the game (C)M	74	div., Bristol, Pa		MATERIALS, POWDER	
Deferment for graduate students (Ed)	5 19	Marsh, Thomas A.		Power materials, Some characteristi	ie
Hard-core unemployed, Possibilities of on the job training of the (A)		ObituaryJ	a 102		

MATERIALS HANDLING. See also BINS;		rials handling (A)D	57	Fundamentally new cotton spinning sys-	
CONVEYORS; DUCTS; SOLIDS;		Stresses in wedges of cohesionless mate-	•	tem, Progress toward a (A)Ja	46
TANKS, STORAGE		rials formed by free discharge at the		MAYO, ALBERT R.	
A-C static variable-frequence speed con-		apex (A)Ja	44	ObituaryD	100
	54	Tow-type conveyors with accumulator		McBride, Edward J.	
Adhesion and agglomeration of solids dur-	94	attachment (mechanisms which bring			104
ing storage, flow, and handling—a sur-		moving materials to a stop, softly)		Elected ASME FellowAg	200
vey (A)Ja	43	(A)D	57	McCabe, Frank E.	100
Air jets convey solid materialsAp	21	Understanding today's container systems		Obtours y	100
Conveying solids with cooperating series		for physical distribution (A)D	56	McCandless, J. M.	
of air jets (A)Ja	45	Unit loads in world commerce, The role of		Water drag effects of flow induced cable	
Arches in bins, Theory of the formation		(A)D	56	vibrations (A)Mr	65
of (A)Ja	42	Unmanned warehouse	53	McCarthy, Ronald J.	
ASME members appointed to U.S. Depart-		Using remote radio controls in redesign		Named factory district representative for	
ment of Transportation's Technical		of crane materials-handling systems at		HUSCO Division of Koehring, Wauke-	
Pipeline Safety Standards Committee		Lockheed-Georgia Company (A)D	54	sha, WisN	107
	103	Yard control equipment for perfect car		McClosky, N.	
Automated coal-handling system for mine-		handling, Design of (A)F	53	Storage facilities associated with an am-	
mouth power station (A)D	54	MATERIALS SELECTION		monia pipeline (A)N	61
Automatic ferrous segregatorD	52	Interpreting laboratory stress-corrosion		McClure, David L.	
Bin loads, On the theory of (A)Ja	43	cracking data in materials selection (A)		Promoted to manufacturing manager of	
Cableway operation at Mossyrock Dam		Ag	69	Photo/Etch Co., division of Industrial	
(A)D	57	Selecting materials to resist low cycle		Electronic Engineers, Inc., Van Nuys,	
Critical porosity of free flowing solids,		fatigue (A)	68	CalifF	85
The (A)Ja	43	MATHEMATICS		McClure, E. R.	
Electrotorque static control for d-c motors		Applying mathematical analysis tech-		Thermal expansion of the workpiece dur-	
(A)D	54	niques to solve engineering problems		ing turning (A)My	102
Entrainment patterns of screw hopper dis-		(A)S	74		202
chargers (A)Ja	42	Continuation of Newton's method through		McClure, Jack	90
Flow of bulk solids, Limit plasticity ap-		bifurcation points (A)N	75	ObituaryF	69
proach to some cases of (A)Ja	44	Mathematics for mechanical engineers:		McConnell, B. D.	
Flow of dry bulk solids on bin walls		NSMRSE (National Study of Mathe-		Development of polybenzimidazole bonded	
(A)Ja	44	matics Requirements for Scientists		solid-film lubricants (A)D	65
Flow patterns of granular materials in		and Engineers), a report on the My	124	McCool, J. I.	
flat-bottom bins (A)Ja	45	MATIUK, ALEXANDER		Load ratings and fatigue life prediction	
Flowability of bins, Effect of initial pres-		Elected ASME FellowD	97	for ball and roller bearings (A)	85
sures on (A)Ja	43		•	McCormack, P. D.	
Granular solid discharged from a bin, Air		Matson, J. V.		Taylor-Goertler vortices and their effect	
pressure in the bulk of (A)Ja	44	Cost of industrial and municipal waste		on heat transfer (A)	88
Gravity flows of ideally plastic materials		treatment in the Maumee River basin	mo	McCrea, D. H.	
through slots TA)Ja	44	(A)S	79	Alkalized alumina system for SO, re-	
Identifying and implementing optimum		MATSUDAIRA, T.		moval, The: design and operation of a	
warehouse systems (A)D	56	Hunting of railway vehicle on test stand,		continuous pilot plant (A)F	60
Live-floor trailer self-loading/unloading		Problems on (A)F	52	McCullough, David P.	-
system (A)D	56	Matsui, N.			100
Mass flow measurement of particulate		Hunting of railway vehicle on test stand,		ObituaryD	100
material (A)D	56		52	McCutchen, C. W.	- 00
Materials handling information and con-		Problems on (A)F	02	Salt effects in mucin lubrication (A)0	83
trol (A)D	54	MATTAVI, J. L.		McDaniel, T. J.	
Model tests of material flow through		Low-cycle fatigue behavior under biaxial		Dynamics of beam-type periodic struc-	
dredge cutters and suction piping (A)	**	strain distribution (A)F	58	tures (A)Ag	
V-4D	56	MATTISON, J. T., JR.		McDonald, E. F.	
Motor controls — past and present (A)		Yard control equipment for perfect car		Fire in gas turbine heat exchangers, The	
D	54	handling, Design of (A)F	53	potential danger of (A)Jl	
Movement of fuel elements in the core of					-
a pebble bed reactor, Investigations on	40	MATTSON, R. L.		McDonald, G. Corry	
the (A)	42	Rolling element fatigue and macroresidual		Appointed to Office of Industrial Coopera-	
New fork-lift truck	56	stress (A)0	86	tion at Sandia Laboratories, Albuquer-	
New methods of applying vibrating hop-	57	MATTSON, RANDALL C. G.		que, N.M.	19
	ze.	Obituary0	128	Proposed: more ASME authors (Ed)Mr	10
pers (A)	56	MATUSZ, J. M.		McDonald, Ralph C.	
urban, industrial and bulk material ap-		Built-in ends of beams and plates, Local		Joins Chemical Construction Corp., New	
plications (A)D	54	flexibility coefficients for the (A)Mr	67	York, N.Y., as southwest district sales	
New wrinkles in static a-c crane control	04			managerJe	99
(A)D	54	MATZNER, B.		McDonald, W. J.	
Noncohesive granular materials through	0.	Critical heat flux measurements in a 16-		Biaxial residual surface stresses from	
discharge chutes, An investigation of		rod simulation of a BWR fuel assembly	0.0	grinding and finish machining 304 stain-	
the gravity flow (A)Ja	43	(A)My	96	less steel determined by a new dis-	
Nonmechanical solids flow control device		MAUGER, DAVID N.		section technique (A)F	
in the waste calcining facility, Experi-		ObituaryAg	108	McElhaney, J. H.	
ence with (A)Ja	44	Maurer, J. R.			
Oscillating conveyers, On the design of		Mean-square response of simple mechan-		Viscoelastic properties of scalp, brain, and	
(A)Ja	44	ical systems to nonstationary random		dura, Some (A)	77
Oscillating conveyors, On the design of:		excitation (A)0	82	McEligot, D. M.	
case of simultaneous normal and longi-			-	Numerical predictions for circular tube	
tudinal oscillations (A)D	57	Mauriello, J. A.		laminarization by heating (A)N	
Particulate suspensions, Similarity in gas-		Skidding in lightly loaded high-speed ball	0.0	Thermal entry for low Reynolds number	
borne flowing (A)Ja	44	thrust bearings (A)O	86	turbulent flow (A)F	
Plastic storage tanks, Analysis and design		MAXWELL, MARVIN V.		Velocity profiles and eddy diffusivities	
of (A)Ja	42	Elected ASME FellowMr	102	for fully developed, turbulent, low Rey-	
Pneumatic backfilling (A)D	57	MAXWORTHY, T.		nolds number pipe flow (A)MI	r 61
Pneumatic transport of fine granular		Flow around a sphere at high Reynolds		McEwen, Ewen	
material (A)Ja	44	numbers, Experience on the (A)N	76	Mechanical quadrupeds (C)N	71
Powder materials, Some characteristic				McGee, James P.	
qualities of (A)Ja	43	MAY, HOWARD F.			
Pressures on silo walls (A)Ja	44	Regenerators for industrial gas turbines,		Electricity from coal: the cycles	
Rate of flow of solids, Effect of injected	4.	Design and experience with (A)Ag	68	Part 3Jı	. 2
air on the (A)	44	MAY, REESE W.		МсСил, Нібн В.	
Research of plywood for material han-		Appointed regional manager for New		Obituary	8
dling applications (A)	54	York, East Orange, Boston, Buffalo, and		McGrath, William L.	
Screw conveyers and feeders, A study of		Pittsburgh district offices of Bailey		Designated a member of Building Re	
factors affecting the performance of	40	Meter Co., Wickliffe, Ohio8		search Advisory Board of National Re	
(A)Ja	43			search Council, Washington, D.CA	
Silo loads in measuring models, Investi-	44	Mayer, A.			
gation of (A)Ja	44	Computer code for performing parametric		McGraw, J. R., Jr.	
Sorting technology and its application to	**	studies on liquid-medal fast-breeder re-		Vibratory bending of damped laminate	
materials management (A)D	56	actors, A (A)Ap	64	plates, The free (A)A	5 6

McGregor, Ronald W.		Gibson method of water measurement,	LOS	Applied mechanics, 1st joint conference on computational approaches in, 1969	
Design of a fluidic direct impact modula-	00	Velocity distribution and its effect on the accuracy of the (A)Je	64	PreviewAp	92
tor (A)	77	Hot - wire anemometer calibration for	110	ProgramMy	146
Nonlinear response of a cylindrical shell		measurements at very low velocity (A)		Review	94
to an impulsive pressure (A)0	80	0	88	Applied mechanics, 6th U.S. national congress of, 1970	
McKee, Herbert, C.		Measuring residual stresses in metals	86		101
Stationary engines — air polluter or not?		Moiré method for measuring large plane		Applied mechanics and fluids engineering	
McKee, Keith E.	75	deformations, The: general theory and		joint conference, 1969	00
Named director of research, engineering		application to homogeneous deforma-	76	ProgramMy	143
mechanics div., IITRI, Chicago, IllO		tion (A)	10	Applied mechanics western conference,	***
125; N	107	Part 1 — Importance and interrela-		1969	
Returns to IIT Research Institute, Chi-		tionships O 26; (C) (D) (AC) D	67	PreviewJe	97
cago, Ill., as asistant director of engi- neering mechanics research after five		Roundness as related to other meas-		Program	101
years with Andrew Corp., Orland Park,		Part 2 — The proposed standardN	52 36	Automatic control: IEEE program on case	101
IIIAp 97; Je	99	Part 3 — Applying the standardD	30	studies in system control, 1969	
McKee, R. B., Jr.		Roundness standard in use, The (A)	476	Preview	112
Tensile fracture of parallel fiber compo-		Ар	53	Automatic control: computer control	
sites, A statistical model for the (A)	00	Simplifying air measuring and balancing	48	workshop, 1969 Preview and program	110
McKelroy, R. B.	66	Sine bar measures small anglesMy	86	Automatic control annual joint conference	110
Development of a quintuplex mobile ser-		Unsteady pressure differential in a capil-		1969	
vice pump (A)N	62	lary-tube gas viscosimeter, Approxi-		PreviewJe	95
McKenna, M. L.		mate correction for (A)0	83 83	Proceedings available0	
Sorting technology and its application to		World measurement system?JI	0.0	ProgramJ	
materials management (A)D	56	MECHAM, DELWIN C.		Review0	113
McKenna, Philip M.		Receives Sylvia W. Farny scholarship award of ASME Woman's AuxiliaryF	77	Call for papersAg	101
Obituary	111	Mechanics	• •	Aviation: space technology and heat	
Performance of the orifice-compensated		Complex harmonic analysis of plane mech-		transfer conference, 1970	
hydrostatic face seal under pressure		anisms. Programming on digital com-		Call for papers 111; O 123; D	94
and thermal loading (A)Ap	52	puters and experimental examples (A)		Aviation and space conference of 1969	60
McKillop, A. A.		Ja	45	canceledMr	90
Squeeze film between rotating annuli, An		Dynamic mechanical properties of human brain tissue (A)	77	Biomechanical and human factors con- ference	
investigation of the (A)D	64	Symmetry of multiply separated positions		3rd. 1969	
McLarnan, Charles W.		in coplanar motion, Conditions for (A)		ProgramMy	142
Promoted, at Ohio State University, Co- lumbus, Ohio, from professor of me-		Je	66	4th, 1970	
chanical engineering to provost and		Mechanisms		Call for papersN	105
executive assistant to vice-president for		Balancing a planar mechanism with vari-		CalendarJa 51; F 65; Mr 89;	
administrative affairsD	96	able mass links (A)Ja	45	Ap 78; My 128; Je 78; Jl 88; Ag 86; S 96; O 108; N 88; D	84
McLean, L. A.				Cavitation, 5th cavitation forum at joint	
Performance of freight car brake regula- tors during static and dynamic condi-		Computer graphicsMr	57	fluids engineering, lubrication, and	
tions (A)F	53	Design of a mechanism: synthesis by	01	heat transfer meeting, 1970	
McLean, William G.	00	iterative analysis (A)Ja	45	Call for papersS 111; N	
ASME vice-president of codes and stand-		Gross motion attributes of certain spatial		Cryogenic engineering conference, 1970	
ards and policy board chairman (1970-		mechanisms (A)Ja	45	Call for papersD	
1972)N	103	Modeling vibration characteristics of a		Design engineering annual conference and	
McMahon, J. F.		fluid drive control mechanism (A)Ag Motion response and design of an under-	64	show, 1969 Papers availableMy	28
Compressor or pump stage for fluctuating		water flotation mechanism (A)	70	PreviewMr 90; Ap	
lift, The quasi-steady design of a (A)	0.4	Music in a simple keyO	67	ProgramAp	88
McManus, Howard N., Jr.	64	Noise of involute helical gears (A)Ja	46	Review	90
Appointed chairman of the department of		Properties of new point contact system of helical gearings, Some (A)Ja	45	ExhibitorsAp 30: Jl	92
mechanical systems and design, College		Spatial mechanisms with several degrees	40	ProductsAp 34; JI	
of Engineering, Cornell UniversityMr	101	of mobility by means of transmission		Diesel and gas engine power annual	
McManus, James P.		functions, A kinematic investigation of		conference	
Reliability in computer programs Baffle-		(A)	46	41st, 1969	
gab? (C)Ap	68	Spatial motion 1 — point paths of mech- anisms with four or fewer links (A)		PreviewF	
McMunn, J. C.		J.	45	ProgramMr Review	
Multi-parameter optimum in linear dy-		Spring equivalent to flywheel for minimal		42nd, 1970	
namical systems (A)Ag	65	coefficient of fluctuation, Synthesis of	4.	Call for papersMy	141
McNally, W. L.		Symmetric overconstrained linkages (A)	40	Education and training, American Man-	
Velocities and streamlines on a blade-to- blade surface of a turbomachine, Pro-		Symmetric overconstrained images (A)	45	agement Association's 5th annual	1
grams for computation of (A)Jl	66	Synthesizing the four-bar crank-rocker		conference and exposition, 1969	100
McParlan, J. L.	30	mechanism, An analytical method for	**	Review	
Utilities: scheduling maintenanceJa	20	(A)Ja	46	tional conference, 1970	•
McPhail, John J.	20	Times response of lower pair spatial mechanisms subjected to general forces		Call for papersS	93
Appointed assistant manager, power plant		(A)Ja	45	Energy conversion engineering, 4th annual	
test and operations dept., Burns and		Wanted: a mechanism information re-		intersociety conference (IECEC)	
Roe, Inc., Oradell, N.J0	125	search centerJl	30	1969	
McRee, D. I.		MECK, H. R.		PreviewJ	
Switching in digital fluid amplifiers (A)	-	Circular ring of arbitrary section, Three-		Experimental stress analysis meeting	
0	77	of a (A)Mr		and exposition with pressure vessel	
McSweeney, William T.				& piping division, 1969	
Obituary	100	MEDICAL CENTERS		Call for papers	
McWilliams, Bayard T.	100	Hypo-hyperbaric chambers for medical centers, The design of (A)		Program	5 109
ASME vice-president, Region IIIN	103	National Control of the Control of t		Fluid mechanics and heat transfer in-	
MEACHAM, H. C.	35/10	Medical Devices		stitute, 1970 Call for papersS 111; C	120
Dynamic loads caused by vehicle-track interaction, A computer study of (A)		National biomedical conference urges con- sumer protection		Fluid sealing, 4th international conference	
interaction, A computer study of (A)				1969	
MEASUREMENTS AND MEASURING		MEDICAL PROFESSION	10	PreviewM	
Dynamic measurement of absolute track	2.00	Engineer-physician cooperationAp	18	Program	p 90
properties (A)Ag	72	MEETINGS. See also ASME MEETINGS		Review	
Effects of mechanical and electrical filter-		Air cargo 5th biennial international	-	Fluidics 10th anniversary symposium 1970	2)
ing on roundness measurements (A)		forum, 1970 Preview	93	Call for papersA	g 101

EETINGS (Continued)		Materials engineering congress and expo-		Space: UN conference on exploration and	
Fluids engineering joint conference with		sition, 1969		peaceful uses of outer space, 1968	52
applied mechanics, 1969		ReviewD	73	ReviewJa	92
PreviewAp	82	Materials handling engineering 9th bien-		Space technology and heat transfer con-	
ProgramMy	143	nial joint conference, 1969	00	ference, 1970	94
Fluids engineering and heat transfer		PreviewAg	93	Call for papers	04
joint conference with lubrication		Program	109	Steam, 7th international conference on	
symposium, 1970		Materials technology 2nd inter-American		properties of, 1968 ReviewMy	138
Call for papersAp 87;		conference, 1970	111	Stream pollution abatement conference,	200
Je 92; S 111; O 123; N	105	Call for papers	***	1969	
Fuels conference, industrial, 1969		theory of machines and mechanisms,		PreviewAp	92
ProgramJa	96	1969		ProgramMy	142
ReviewAp	84	ReviewN	83		102
Fuels technology, North American (inter-		Mechanisms 11th biennial conference, 1970	60	Structures, structural dynamics, and mate-	
national) conference, 1970	?	Call for papers0	123	rials annual conference	
PreviewS	106	Metal Properties Council symposium at	120	10th, 1969	
Gas turbine annual international confer-		1969 ASME Winter Annual Meeting		PreviewP	75
ence and products show		Call for papersMr	93	ProgramMr	96
15th, 1970		Metals engineering, pressure vessel and	-	ReviewJe	90
Call for papersF	75	piping, underwater technology joint		11th, 1970	
PreviewD	88	conference, 1969			116
14th, 1969	95	ProgramF	83	Textile engineering annual conference,	
Preview Ja Program F	78	ReviewMy	136	1969	
ReviewMy	130	Nucleation in boiling and cavitation sym-		PreviewMr	93
General managers conference, 1st, 1968	100	posium at heat transfer and fluid		ProgramAp	91
ReviewJa	88	mechanics institute, 1970		ReviewAg	96
Heat transfer and fluid mechanics insti-	00	Call for papers	120	Training: American Management Associ-	
tute, 1970		Offshore technology annual conference		ation's 5th annual education and	
Call for papersS 111; O	120	1st (1969) reviewS	100	training conference and exposition,	
Heat transfer and fluids engineering con-	120	2nd (1970) previewS	100	1969	
ference, plus lubrication symposium,		Petroleum and pressure vessel & piping		Review0	104
1970		2nd joint conference, 1970		Transportation: international conference	
Call for papersAp 87; Je 92;		Call for papersJl 116; N	105	on urban transportation, 1969	
S 111: O 123: N	105	Petroleum mechanical engineering 24th		Volpe on transportationMy 1	22
Heat transfer and space technology con-	100	annual conference, 1969		Transportation engineering, ASCE na-	
ference, 1970		PreviewJl	107	tional meeting on, 1969	
Call for papers S 111; O 123; D	94	ProgramAg	99	Preview and ASME panel programJe	97
Heat transfer conferences		ReviewN	92	ReviewS	100
4th international, 1970		Plant engineering and maintenance annual		Transportation engineering conferences	
Call for papersJa	97	conference		1968	
11th national, 1969 (dedicated to E. R. G.		12th, 1969		ReviewJa	92
Eckert)		PreviewF	74	1970	
PreviewAp 92; Je	95	ProgramMr	95	Call for papersN 105; D	94
Program Jl		ReviewJe	86	Underwater technology: "Progress Into	
Review0		13th, 1970		the Sea" joint symposium, 1969	
Industrial fuels conference, 1969	110	Call for papersJe	92	Program0	122
ProgramJa	96	Power: 31st annual American power con-		Underwater technology 3rd national con-	
ReviewAp	84	ference, 1969		ference, 1969	0.00
	04	PreviewMr	91	Preview	97
Lubrication, joint ASME-ASLE confer-		Review	102	ProgramF	80
ence, 1969	0.0	Power: 7th world power conference, 1968	*0	ReviewMy	134
PreviewAg	93	ReviewJa	52	Underwater technology, metals engineer-	
ProgramO	121	Power generation joint conference, 1969	105	ing, pressure vessel and piping joint	
Lubrication symposium, 1969		PreviewJl		conference, 1969	00
PreviewAp		ProgramAg		ProgramF	83
ProgramMy		ReviewN	96	ReviewMy	136
ReviewS	104	Pressure vessel and piping, metals engi-		Urban crisis: National Academy of Engi-	
Lubrication symposium at fluids engineer-		ing, underwater technology joint con-		neering symposium, 1969	101
ing and heat transfer conference, 1970		ference, 1969	83	Program	77
Call for papersAp 87; Je 92;		ProgramF		Review	"
S 111; O 123; N	105	ReviewMy Pressure vessel & piping and petroleum	100		07
Machines: 2nd international congress in		2nd joint conference, 1970		ProgramF	81
theory of machines and mechanisms,		Call for papersJl 116; N	105		88
1969		Pressure vessel technology 1st interna-	200	ReviewJe Welding: annual American Welding So-	00
ReviewN	83	tional conference, 1969		ciety meeting, 1970	
Maintainability and reliability 8th annual		PreviewMy 141; Jl	106	Call for papersS	111
conference, 1969		ProgramS			***
PreviewMy	141	ReviewD		MEGONNELL, W. H.	
ProgramJe		Pressure vessels: experimental stress ana-		Pollution control: federal leadershipP	20
Maintenance and plant engineering annual		lysis meeting and exposition with		MEHRINGER, FRANK J.	
conference		pressure vessel & piping division,		Elected ASME FellowJe	101
12th, 1969		1969		Мента, Н. S.	
PreviewF	74	Call for papersP	75		1
ProgramMr		ProgramS		Some steady-state plastic deformation processes, A new upper-bound method	4
ReviewJe	86	Pressure vessels: public hearing on rein-		for analysis of (A)My	101
13th, 1970		forced plastic pressure vessels - Sec-		for analysis of (A)my	101
Call for papersJe	92	tion X		MEILE, C. H.	1
Management: American Management As-		PreviewAp	82	Value control (A)S	67
sociation's 5th annual education and		Review	115		
training conference and exposition,		Production engineering spring confer-		MELCHETT MEDAL	
1969		ence, 1970		Institute of Fuel (British) gives 1969	
Review0	104	PreviewS	100	medal to William T. ReidN	107
Management engineering 17th annual		Railroad joint conference, 1969		MELLO, J. D.	
joint conference, 1969		ProgramMr		Emulsified fuel and fuel control systems	
PreviewAg	93	ReviewAg		(A)Jl	65
ProgramS		Reliability and maintainability 8th annual		****	-
Review		joint conference, 1969		MELLON, GEORGE W.	
Managers: 1st general managers confer-		PreviewMy		ObituaryN	111
ence, 1968		Program Je		Mellor, G. L.	
		Sealing: fluid sealing 4th international		Analytical investment of fully developed	
ReviewJa	88	conference, 1969	-	laminar flow with heat transfer and	
Materials, structures, and structural dy-		PreviewMr		variable fluid properties in a rotating	
namics annual conference		ProgramAp		tube (A)P	59
10th, 1969		Review			91
ProgramMI		Solids, 1st symposium on storage, flow		Mels, K. D.	
ReviewJe		and handling of, 1968	00	Wheel-rail adhesion (A)P	53
11th, 1970	90	ReviewJa		MELTING, LEVITATION	
Call for papers	1 110	Space: aviation and space conference of		Levitation meltingAg	
The same of the sa		1969 canceledMI	00	are vital tion in citaling	9

MELVIN, J. W.		ment alone is not enough (A)Je	60	Analyzing the turbulent boundary layer	
Dynamic mechanical properties of human brain tissue (A)	77	Ductile creep rupture of shells with strain	00	with arbitrary pressure gradient, A new	
Melworm, R. F.	77	hardening and time-dependent loading		integral method for (A)Je	63
Distributed loads on long cylinders, Solu-		(A)Mr	71	Applying mathematical analysis tech-	
tions for (A)Mr	67	Effect of state-of-stress and yield crite-	nolf	niques to solve engineering problems	
MEMMEN, ROBERT	7.5	rion on the Bauschinger effect (A)Mr	72	(A)S	74
Receives Sylvia W. Farny scholarship		Effects of coatings, containing spatially stabilized polar liquids, on stress corro-		METRIC SYSTEM	
award of ASME Woman's AuxiliaryF	77	sion and fatigue resistance on metals		Handling metrics (C)Js	48
MENDEL, JEROME	140	(A)Ag	69	Metre meter (C)Mr	76 48
Engineering method (C)	72	Elastic-plastic stress distribution in a		Metric feet (C)My	110
MENDELL, WILLIAM HENRY	10	compressed ring (A)Mr	72	Metric studyMr	83
Obituary	154	Fatigue damage accumulation, A general		Metric system (C)N	78
	104	theory of (A)	57	Metric — there and here (C)	71
MENDONSA, LOUIS W.		Fiber-reinforced superalloyJe 49; Ag	46	Metrication for the United States	
Appointed to U.S. Department of Trans- portation's Technical Pipeline Safety		Gas turbine blade materials after a long term of service, Metallurgical studies		Congress needs answersMy	12
Standards Committee to help frame		on (A)Jl	60	Is it really necessary?My	14
safety standards for transporting gas		Generation of crack propagation data on	1	How Britain is doing itMy	16
by pipelineAg	103	notched rotating beam specimens by		Canadian view, The	22
MERCANDANTE, NICHOLAS J.		means of an interrupted stressing tech-	100	Metric — there and here (C)Jl	71
Joins Controls Co. of America, a subsid-		nique (A)	57	"Metrification" (C)Ag	77
iary of Singer Co., as director of		Green's function for the stress-intensity factors of edge cracks and its applica-		Re: metric systems (C)Ap	67
manufacturing for Appliance and Auto-		tion to thermal stresses, A (A)F	57	Save education \$\$My	122
motive Division, Schiller Park, IllS	114	Improved table for cutting and welding		U.S. Secretary of Commerce establishes	
MERCURE, ROBERT A.		D	44	Metric System Study Advisory Panel	95
First aerodynamic torque converter for		Interpreting laboratory stress-corrosion		Louis Polk named panel chairmanD Roy P. Trowbridge named panel mem-	- 00
gas turbines, Design and test of the		cracking data in materials selection (A)		berD	95
(A)Ag	68	Ag	69	Why adopt the metric system?F	66
MERCURY		Levitation meltingAg	47	Re: metric systems (C)Ap	68
Heat transfer to mercury flowing in line		Low-cycle fatigue behavior under bi-	58	METZ, H. D.	
through an unbaffled rod bundle: ex-		axial strain distribution (A)F Measuring residual stresses in metals	98	Implantable valveless heart assist pump,	
perimental study of the effect of rod		Measuring residual stresses in metals	86	An (A)Ap	59
displacement on rod-average heat trans-		Metal matrix composites, Characterization		METZGER, D. E.	
fer coefficients (A)Je	61	of (A)Jl	62	Impingement cooling of concave surfaces	
MERIAM, J. L.		Mitigating hydrogen damage and liquid		with lines of air jets (A)F	58
Resigns as dean of the school of engi-		phase corrosion in an electrical utility		MEYER, F., JR.	
neering at Duke University, Durham, N.C., after five years to resume full-		steam generator, Case study in (A)		Effects of component geometry and sur-	
time teaching and research dutiesAp	98	Nuclear control instrumentsAg	71 57	face texture on bearing performance	
The state of the s	90	Post-irradiation fatigue properties of base	91	(A)S	70
MERRIAM, RICHARD L. Recipient of Russell B. Scott memorial		metals and weldments (A)Ag	71	MEYER, J. A.	
award in cryogenic engineering re-		Selecting metals for fracture toughness	-	Motion response and design of an under-	
search0	126	(A)S	67	water flotation mechanism (A)Jl	70
MERRITT, B. A.	140	Strain energy release rate, The effect of		MEYER, LEONARD C.	
Industrial processing with electrical ener-		yielding on the (A)F	57	Recipient of first M.S. degree in indus-	
	69	Stress-corrosion cracking of AISI 52100		trial operations ever awarded by Pur-	
gy (A)Je	69	steel in turbine lubricant environments		due University0	126
MERTE, H., JR.		(A)Ag	70	Meyers, C. A.	
Incipient and nucleate boiling of liquid		Stress corrosion testing of 7079-T6 alumi- num alloy in seawater using smooth and		Penetration and mixing of air jets di-	
hydrogen (A)Je	61	precracked specimens (A)Ag	70	rected perpendicular to a stream, The	
MERWIN, HARRY H.		Stress induced diffusion and stress corro-	10	(A)F	59
ObituaryJl	124	sion cracking (A)Ag	69	MEYERS, PHILLIP S.	
MESERVE, JULIAN H.		Stress intensity factors for edge cracks		Elected 1969 president by Society of Auto-	
Elected ASME FellowAp	99	in rectangular plates with arbitrary		motive EngineersJl	119
MESOSCAPHE. See VEHICLES, UNDERWATER		loadings (A)F	57		
METAL CUTTING		Stresses near an oblique elliptical aper-	mo	MICHELS, AMBROSE P.	100
Deep-hole drillingAg	56	ture in a large plate, On the (A)Mr Structural growth induced by thermal cy-	72	ObituaryAp	102
Prevents undercutting in tensile speci-		cling (A)Mr	71	MICKAS, GEORGE	
mens		Thermal ratchet mechanism, The (A)Mr	72	Named manager, engineering and develop-	
METAL FORMING		"Trans-Ject" combination bondAg	45	ment, at Colonial Broach & Machine Co.,	-
Graded metal-joining techniqueN	51	Use of acoustic emission to study failure		Warren, MichJa	99
Helical tape forming device0	63	mechanisms in metal (A)Ag	70	MICROFINISHING	
"Mechanische Umformtechnik" (BR)O	95	Use of tapered double-cantilever-beam		Microfinishing: a precision machine opera-	
Six-thousand-ton pressAg		specimens for fatigue crack growth	71	tionN	41
Squeeze castingN	45	studies (A)	69	MIDTLYING, CARL R.	
METAL PROPERTIES COUNCIL		Vacuum technology for Space Age0	64	Named manager, subsidiary and new	
Metal Properties Council, TheF		Very-short-time, very-high-temperature		products development section, Riley	
Symposium at 1969 ASME Winter Annual		creep rupture of type 347 stainless		Stoker Corp., Worcester, MassJe	100
Meeting Call for papersMr	93	steel and correlation of data (A)Mr	71	MIERENDORF, ROBERT	
	93	"Whiskers"Mr	82	Electrotorque static control for d-e motors	
METAL TURNING		METALLURGY		(A)	54
Effects of modal cross-coupling on metal- turning operations, The (A)Ag		Graded metal-joining techniqueN	51	MIKESELL, W. R.	
	04	METALS, LIQUID		Application of primary sealing criteria to	
METAL WORKING	41	Heat transfer to mercury flowing in line		a self energized gasket (A)Mr	68
Metal under stress	39	through an unbaffled rod bundle: ex-		Мікіс, В. В.	
Company of the compan	00	perimental study of the effect of rod		Correlation of pool-boiling data, A new-	
METALS. See also AUTOFRETTAGE; STEEL	100	displacement on rod-average heat trans-	61	including the effect of heating surface	
Anisotropic plate steel, Neck-and-split tensile fracture of (A)F		fer coefficients (A)	OX	characteristics (A)My	
Biaxial fracture criterion for porous		METCALF, WILLIAM, AWARD. See HONORS		Effect of thermocapillary flow on heat	
brittle materials, A (A)Mi		METEOROLOGY		transfer in dropwise condensation, The	
Bonding materials — adhesive bonding		Meteorological and hydrological drought		(A)N	71
metals (A)	70	in Raritan River basin in New Jersey	-	Miklowitz, J.	
Coming: super-refined steels and alloys		(A)	199	Transient excitation of an elastic half	
A	44	Scanning N.Y. skiesMy	123	space by a point load traveling on the	
Corrosion failures of spacecraft hardware		METEORS	-	surface (A)	, 41
Crack growth under cyclic compression		Menace of the meteorAp		MIKOLAJCZAK, A. A.	vi :
(A)		What was it? (C)Je	72	Flow through cascades of slotted com-	
Designing wire parts for high production		METERS AND METERING		pressor blades (A)J	. 01
***************************************	25	Anhydrous ammonia — metering (A)N		MILES, AARON J.	
Detection of metallic chiests I	. 21	Automatic meter readingJe	84	Elected ASME FellowA	110

MILES, J. E. P.		lems encountered when (A)Jl	68	case of simultaneuos normal and longi-	
Screw conveyors and feeders, A study of factors affecting the performance of		MOHLER, R. R.		tudinal oscillations (A)	57
(A)Ja	43	Control with a multiplicative mode (A)		MORGAN, ALBERT H.	
MILITARY SERVICE		Ар	61	ObituaryMr	105
Deferment for graduate students (Ed) S	19	MOHN, PAUL E.		Morgan, D. W. R.	
MILLER, ARTHUR H.		Elected ASME FellowJl	121	Awarded ASME 50-year membership pin	99
Appointed U.S. product manager, Double		Mohsen, A. M.		Morgan, Everett K.	
The state of the s	107	Separated flow of very thick incom- pressible turbulent boundary layers, An		ObituaryJl	124
MILLER, D. R.		experimental study of the (A)Mr	63	Morgenweck, F. E.	
Pressure suppression containment de- sign—current state of the art (A)Ap	61	Moiré Method		Performance testing of large natural	
MILLER, DANIEL R.	01	Moiré method for measuring large plane		arms arms arms arms arms arms are arms	106
Elected ASME FellowMr	104	deformations, The: general theory and		MORITZ, ADRIANUS J. L.	
MILLER, G. E.		application to homogeneous deforma-	76	ObituaryP	-89
Mechanical heart assists, Development of		tion (A)N	10	Morosini, Nevino J.	104
(A)Mr	67	Injection molding of thermosetting mate-		ObituaryJe	104
MILLER, R. W.		rials (A)S	69	Moroz, William J. "Nonpersonal" air pollution (C)N	77
Effects of orifice plate eccentricity on		"Trans-Ject" combination bondAg	45	Morris, John M.	**
flow coefficients, Experimental study of the (A)Je	62	MOLIN. FRANCIS H.		Appointed president of Carrier Division	
MILLERS, H. F.	02	ObituaryMy	154	of Rex Chainbelt Inc., Louisville, Ky.	
Optimal state variable feedback with		MOLLENDORF, J. C.		Ag	104
bounded gains (A)Ap	58	Transition and relaminarization in an ex-		Morris, W. Cullen	
MILLIGAN, M. W.		ternal natural convection flow (A)N	65	Receives 55-year membership certificate	
Predicting gas flow rates in vacuum sys-		MOLTER, G. E.		from ASME	119
tems (A)Je	60	Material characterization results for a		Morrison, Thomas W.	
MILLIGAN, R. V.		selected graphite fiber/epoxy compos-	00	Elected president and chief executive officer of SKF Industries, Inc., Phila-	
Influence of Bauschinger effect on re- verse yielding in thick-walled cylinders		ite (A)Ag	68	delphia, Pamr 101; My	151
(A)D	60	Molz, F. J.		Morrow, J. F.	
MILLING	00	First approximation for flow through a	72	Adhesives for threaded fasteners (A)S	70
3000-lb coils from new rod millJe	53	porous tube, A (A)0	73	Moschini, F. N.	
MILLS, A. F.		MOMENTUM TRANSFER Resistances to heat and momentum trans-		Design considerations of USAS B31.7,	
Laminar film condensation of a flowing		fer in the viscous sublayer at rough		nuclear power piping (A)My	107
vapor on a horizontal cylinder at nor-	-	walls, Some correlations for (A)0	88	Moses, Fred C.	-
mal gravity (A)N MILLS, EARLE W.	72	MONITORS AND MONITORING		ObituaryMr	105
ObituaryN	111	Condition monitoring (A)Jl	68	Moses, H. L.	
MILLS, ROBERT W.	111	Sensitive tiltmeterF	43	Response of a fluidic air gauge (A)Je Switching in digital fluid amplifiers (A)	04
ASME vice-president, Region VIIN	104	Vibration monitoring 0 40; (A) Ag	73	0	77
Mims, W. E.	104	MONORAIL SYSTEM		Mosinskis, G.	
Performance of freight car brake regula-		Monorail for Expo '70Je	57	Solution of the incompressible turbulent	
tors during static and dynamic condi-		MONTELONE, EUGENE N.		boundary - layer equations with heat	
tions (A)F	53	Appointed director of proposal develop-		transfer (A)N	68
Mingo, G. R.		ment for Combustion Engineering's utility	100	MOSTELLER, W. L.	
Optical study of a fluidic temperature	-00	divisionAg	103	Effect of nucleate boiling on the opera- tion of low temperature heat pipes (A)	
sensor (A)Mr	63	Moody, Arthur M. G.			
MINING		Retired engineer ordained an Episcopal		Моте, С. D., Jr.	-
Powering mammoth draglineJe	53	priest Oct. 18, 1968, at Christ Church, La Crosse, WisF		Expected equivalent damping under ran-	
Mir, W. A.			00	dom excitation (A)Ag	
Cup drawing from an anisotropic blank		Moopy, F. J. Liquid/vapor action in a vessel during		Free, periodic, nonlinear oscillation of an	
(A)My	100	blowdown (A)Ap		axially moving strip (A)O	
Mirza, M. K.		Prediction of blowdown thrust and jet		Nonlinear oscillation of a cylinder con-	
Apollo 11 (C)0	94	forces (A)N	68	taining a flowing fluid (A)Ag	64
MISSISSIPPI STATE UNIVERSITY		Pressure pulse model for two-phase critical		MOTION PICTURES	
C. T. Carley appointed professor and head,	107	flow and sonic velocity, A (A)My	24	Engineering filmsJa 59; Mr 88; O	
mechanical engineering departmentN	107	Moody, G. B.		Notebook of engineering films, A0	107
MITCHELL, R. K.		Plastic storage tanks, Analysis and de- sign of (A)Ja		MOTORS AND MOTOR CONTROLS	
Turbine-speed fuel pump for small gas- turbine engines, A (A)Jl	- 66			A-C static variable-frequence speed con-	
MITCHELL. THOMAS L.	00	MOODY, WILLIAM M. Receives ASME 50-year membership pir		trol (A)	
Receives Sylvia W. Farny scholarship		Receives ASME 50-year membership pil		Electrotorque static control for d-c motors	
award of ASME Woman's AuxiliaryF	77	Moon, F. C.		(A)	54
MITTEN, WAYNE B., JR.		Vibration and dynamic instability of	1	Graphical performance criteria for moving	
Appointed to manufacturing management		beam-plate in a transverse magnetic	2	coil motors (A)	74
position with Philco-Ford Corp.'s con-		field (A)		motor controls — past and present (A)	
sumer products organization, Newport		MOON LANDING. See LUNAR TECHNOLOGY		MOUAT. HARRY G.	
Beach, CalifS	114	MOONEY, WELDON		ObituaryM	r 105
Mixon, L. C.		ObituaryM	154	MOULTON, L. J.	-
Multicomponent force transducer for use		Moore, C. J., Jr.		Integration of control and fuel system	n
on rocket sleds (A)Ag	61	Subject classification bibliography for	r	components today and tomorrow (A)	
MOBILITY New concepts in overland mobility (A)S	67	thermal contact resistance studies (A			11 66
	01	M	y 97	Mountings	
Modulators Design of a fluidic direct impact modula-		Moore, Gordon L.		Foundations and mountings for recipro	
tor (A)		Appointed chairman of a national com		cating machinery, Design of (A)	8 75
Moen, Walter B.		mittee of American Society of Heating Refrigerating, and Air Conditioning		MOYER, WAYNE B.	
Mr. Moen's reply (C)J	71	EngineersA		Obituary	N 111
MOFFAT, R. J.		Moore, Richard G.		Mroz, Z.	
Heat transfer to the highly accelerated		Appointed engineering manager, power	r	Limit plasticity approach to some case	
turbulent boundary layer with and with		equipment, at Schutte & Koerting Co		of flow of bulk solids (A)	a 4
out mass addition (A)		Cornwell Heights, Pa		Mub	
MOFFATT, C. A.		MOORE, S. E.		Single acting triplex pumps for mud serv	
Dynamic properties of the human leg		Investigations on piping component		ice (A)	14 6
Experimental and analytic study of		valves, and pumps to provide informs		Mudge, Sterling W.	
(A)	78	tion for code writing bodies (A)M	y 107	Receives 55-year membership certificat	
MOFFITT, THOMAS P.		Morcos, W. A.			
Determining the performance of certain		Oscillating conveyors, On the design		MUHR, ERNST Metric — there and here (C)	11 7
turbine stator blades from total pres		(A)	- 44	Storic - there and nere (v) assumessment	

Diffusion of load from a transverse ten-		NAN, NING		A systems approach to O. EMy	125
sion bar into a semi-infinite elastic		Plane waves due to combined compressive and shear stresses in a half space (A)		NATIONAL SOCIETY OF PROFESSIONAL	
sheet, On the (A)Je	65	0	80	Engineers	
MULLER, HENRY N.		NASH, C. D., JR.		Bills on pensionsMy	122
Honored at ANSI (formerly USASI)		Management planning to avoid technologi-		By 1970: million engineers	82
awards luncheon, 1968Je	100	cal obsolescence of engineering and		Engineering achievements, NSPE selec-	74
MULLER-GIRARD, OTTO		scientific personnel (A)Ap	56	New NSPE recommendationsJe	84
Forms consulting engineering firm under	107	NASHIF, A. D.		NSPE liability policyJe	84
his name in Rochester, N.YN MULLIGAN, J. C.	107	Resonant beam tuned damping device, A	59	Salaries vs. cost of living	82
Transient freezing of liquids in forced		NATIONAL ACADEMY OF ENGINEERING	05	NATIONAL TRANSLATIONS CENTER	
flow inside circular tubes (A)My	94	Committee on Interplay of Engineering		National translations center at John Cre-	
MURAKAMI, MITSUKIYO		with Biology and Medicine		rar libraryMy	127
Improvement of pump performance by		Bioengineering subcontracts	85	NATURAL RESOURCES	
impeller eye throttling (A)	72	Elects six ASME members: Paul F. Che-		Natural resources management	25
MURPHY, G.		nea, Richard J. Grosh, George W. Kess- ler, Allen Latham, Jr., Morrough P.		Part 1: AirMr Automotive pollutants (C)Je	73
Unseparated fission products as a heat		O'Brien, Edward Wenk, JrS	113	Part 2: WaterAp	33
source (A)Ap	62	NAE 'biomedical' report stresses coopera-		Water resource development of Mullica	
MURPHY, G. J. Linear optimal control problems, A new		tionD	76	River basin, New Jersey (A)S	80
approach to the solution of (A)Ap	61	Regional development	103	NATURE	**
MURPHY, W. K.		Symposium on "The Engineer and the	101	Maine action planF	75
Ultraviolet sterilization of water and its		"The Engineer and the City" explored	202	Underground line, The (C)Mr NAVIGATION. See also NORTHWEST PASSAGE	10
relation to maintaining aquatic organ-		at National Academy symposiumD	77		110
ism (A)Je	59	NATIONAL ACADEMY OF SCIENCES		NEELY, FRANK H.	
Murray, Graham J.		Regional development0	103	Made honorary member of American	
ObituaryJe	104	NATIONAL AERONAUTICS AND SPACE			114
MURRAY, R. H.		Administration		Negroni, F.	
Natural gas — supply and economics	69	"Ben Franklin" emerges from Gulf		Plastic tensile instability criteria, On the	
MURRAY, S. F.	69	Stream0	100	(A)My	103
Nonmetallic bearing materials (A)S	68	Challengers of the silent depthsMy	75	Neifert, H. R.	
MURTHY, C. R.	00	Experimental "quiet engine"Mr	56	Tapered roller thrust bearings with vari-	
Settling of dust particles borne by hot		Finer than frog hair	105	ous lubricating systems, High-speed performance of (A)	99
chimney plumes, On the (A)Mr	71	Grant for designers manual	100	Neil, David L.	00
MUSCHAMP, GEORGE M.		Part 1: Challenge and the means, The		Appointed director of maufacturing for	
ObituaryS	116	Je	11	building products of General Aniline and	
MUSEUM OF MODERN ART		Part 2: Building a gargantuan assem-		Film Corp., New York, N.YJe	100
Catalog of exhibit on The Machine as Seen		bly line	35	NEILL, D. E.	
at the End of the Mechanical AgeMy	127	World's largest building (C)D Part 3: Gentle mammoth, TheAg	67 35	Measurement of rotating machinery vibra-	
Music		Part 4: Springboard to space	41	tion and factors affecting instrument	
Music in a simple key	67	Part 5: Loosening the terrestrial bonds		accuracy (A)My	103
Muster, D.		0	47	Nelson, F. C.	
Balancing criteria and their relationship to current American practice (A)Ag	67	Moon mission completed—and recorded	10	Influence of dissipative heating on the loss factor of a viscoelastically damped	
Whirl in a finite journal bearing with a	0,	(Ed)	43	beam, The (A)My	103
continuous lubricating film, An analytic		Medal for exceptional scientific achieve- ment awarded to Edmond E. Bisson		NELSON, F. W.	
solution for (A)Ag	66	My	151	Glass-lined pipeJa	14
Myers, G. H.		Men on the moon	43	NELSON, J. A.	
Power transfer device for mechanical		"Professionalism" (C)0	93	Transit propulsion unit suspension, A new	
hearts, A (A)Ap	55	NAPCA poins NASA in researchAg		- proved on Northeast Corridor high-	
Myers, J. L.		NASA PhD fellowships	85	speed test cars (A)Ag	72
New methods of applying vibrating hop-		Spaghetti-flavored bacteria for Martian tripMy	84	Nelson, L. H.	
pers (A)D	56	Target: the moon (Ed)Je	9	Wear ring seals for high-speed, high-pres-	
		Apollo 11 (C)0	94	sure turbopumps, Evaluation of (A)	53
the last to the last the same and		Technology utilization		NEMAT-NASSER, S.	-
Hard and the second second second		Tektites from TychoN	53	Elastic-plastic, work-hardening arches	
The state of the s		U.S. space centers use quick-retrieval data		(A)0	82
NA. T. Y.		system (RECON)		NEPAL	
Jet pump cavitation parameter based on		NATIONAL AIR POLLUTION CONTROL	•	Nepal aerial tramway (A)D	56
NPSH, A (A)Mr	64	Administration		NESTERENKO, DIMITRI	
Staged jet-pump systems, Optimal design		Air pollution studyD	78	Foundations and mountings for recipro-	
of (A)My	104	Labels for 1970 vehicles		cating machinery, Design of (A)S	75
Water jet pumps, Optimum design of (A)		Laser to measure pollutionAg	80	NETHERLANDS	
Je	64	NAPCA joins NASA in researchAg	81	Armored glass pipe system	
NACHBAR, W.		NATIONAL BUREAU OF STANDARDS	-	First nuclear stationO Marine boilersAg	
Optimization of a viscoelastic structure:		Cryoelectronics at NBSN	85	New fork-lift truck	
the seat-belt problem (A)D	66	Improved accuracy of U.S. legal voltF Laser wavelength — new length refer-		Networks	
NAGEL, ALFRED W.	***	ence		Theory of distributed systems (A)O	76
Elected ASME FellowAg	100	Office of Vehicle Safety Research Brake		NEURISTOR	
NAGENDRA, H. R.		systems researchAg		Electronic "gray matter"S	56
Free convection heat transfer from ver- tical isothermal cylinders with trans-		NATIONAL COMMISSION ON PRODUCT SAFET		NEVSTRUEVA, E. I.	
verse curvature effect (A)N		Standards dilemma, TheJe	84	Hydrodynamic character of burnout in	
		NATIONAL ENGINEERS WEEK		subcooled liquid boiling in channels, On	
NAGHDI, PAUL M. Elected ASME FellowAg	105	Record program planned for National		(A)N	70
	100	NATIONAL INSTITUTES OF HEALTH	75	New Caledonia	
NAHUM, A. M.		Heart		New nickel company	56
Head trauma — a parametric dynamic study (A)S		Artificial heart program, TheJe	20	NEW ENGLAND	
	19	NATIONAL LUBRICATING GREASE INSTITUTE		New England "burns"Je	
NAIK, V. V.		Presents Clarence E. Earle memorial		No solution (C)Ag	70
Tapered roller thrust bearings with vari- ous lubricating systems, High-speed		award to W. J. EwbankMy		New Jersey	
performance of (A)0	83	NATIONAL MEDAL OF SCIENCE		Colleges, state and community Wanted: retired engineers	
NAISMITH, D. P.		Nathan M. Newmark is 1968 recipient		To teach or be trained for challenging	
Unseparated fission products as a heat				careers in engineering education	
source (A)Ap		NATIONAL SCIENCE FOUNDATION		Je	75
NAKAYAMA, W.		ASEE to study engineering technology		NEW YORK CITY	
Thermal instability in plane Poiseuille		educationN	86	Hall of science	
flow (A)N	70	NSF fellowships, 1970-1971	80	Training reactor for New YorkMy	123

NEW YORK STATE POWER AUTHORITY		A modified entrainment theory for the	78	transporting problem)	88
Pump turbines for New YorkAg	57	NIEDERMAIR, WILLIAM I.	10	Problems of a historic voyageS	61
NEWARK COLLEGE OF ENGINEERING		Northwest Hydrofoil Line's hydrofoil ship		Norwood, F. R.	
Foundation for the Advancement of Grad-		Victoria gas turbine main propulsion	111	Exact transient response of an elastic	
uate Study in Engineering Grant for designers manual	105	system (A)Jl	69	half space loaded over a rectangular	
Newark's youthful engineersMy		NIESWAND, G. H.		region of its surface (A)N	74
Women engineers at NCEN	86	Water resource development of Mullica	00	NOTCHES AND NOTCHING	
NEWELL, M. E.		River basin, New Jersey (A)	80	Double-notch creep rupture of 5 Cr-0.5 Mo steels (A)F	57
Heat transfer laminar natural convec-		Nikkanen, J. P. Flow through cascades of slotted com-		Stress concentration factors for U-shaped,	•
tion within rectangular enclosures (A)		pressor blades (A)JI	60	hyperbolic, and rounded V-shaped,	-
N	70	NIMITZ, W.		notches (A)S	73
NEWELL, P. H., JR.		Pulsation effects on reciprocating com-		Nothmann, Gerhard A.	
Combined free and forced convection for fully developed laminar flow in hori-		pressors (A)N	64	Elected vice-president engineering, Robert-	
zontal tubes, Analysis of (A)N	71	NISARGAND, UMESH L.		son Photo-Mechanix, Inc., Des Plaines,	125
Newgard, P. M.	••	Big dollar, The (compensation programs for engineers)			
Intact skin transformer for artificial		He played the game (C)Mr	74	NOVAK, G. E. Thermal stresses in railcar wheels, A	
hearts (A)My	106	NITNOL		three-dimensional finite difference solu-	
NEWLAND, D. E.		Alloy with a memoryS	90	tion for the (A)Ag	72
Steering a flexible railway truck on		Nitrogen		NOVOTNY, JOHN	
curved track (A)Ag	73	Automatic nitrogen plant	74	Roundness measurement: part 1 - im-	
NEWMANN, CARL L.		Nucleate boiling with liquid nitrogen, The inception of (A)	61	portance and interrelationships (C) (D)	67
Appointed chief engineer, power division,		Nitz, A.		N F &	0,
United Engineers and Constructors, Philadelphia, PaJe	99	Strain effect on EMF of silver iodide		Nowak, E. S. Calorimeter apparatus to measure the	
NEWMARK, NATHAN M.	••	cells (A)Je	68	enthalpy difference of heavy water, A	
Named 1969 recipient of Washington		Nix, G. H.		(A)0	88
Award, conferred by six professional		Pool boiling heat transfer from teflon-	0.0	Noyes, B. S., Jr.	
societies and administered by the West-		coated stainless steel (A)My	96	Aerodynamic drag on vehicles in tunnels	
ern Society of Engineers; also a 1968		Noise Criteria for evaluating your noise prob-		(A)0	75
recipient of National Medal of Science, Government's highest award for dis-		lems (A)S	72	Nozzles. See also Power Engineering	
tinguished achievement in science,		Discrete frequency noise generation from		Errors in sonic nozzle mass flow measure-	
mathematics, and engineeringMy	151	an axial flow fan blade row (A)0	76	ments at high supply pressures and	
News		Experimental "quiet engine"Mr Fan/compressor noise reduction (A)Jl	56 60	moderate temperatures due to real gas effects (A)Je	62
ASME news, See American Society of Me-		Gas turbine noise from an industrial ve-	00	Laminarization of a turbulent boundary	02
chanical Engineering		hicle, Measurement and control of (A)		layer in nozzle flow - boundary layer	
Briefing the recordJa 30; F 45; Mr 50; Ap 38; My 86; Je 44; Jl 43; Ag 44; S			62	and heat transfer measurements with	-
50; O 57; N 43; D	37	Gear noise analyzerD	46	wall cooling (A)N Low density nozzle flow (A)F	62
Education newsJa 56; F 70; Mr 84;	٠.	Interior noise reduction in rail vehicles — a specific example (A)Ag	65	Pulsating flows in infinite and finite	02
Ap 76; My 124; Je 75; Jl 84; Ag 82;		Lead sandwich	50	conical nozzles, Analysis of (A)0	82
S 92; O 104; N 86; D	80	Noise of involute helical gears (A)Ja	46	Nuclear Devices	
NASA tech briefsJa 30; F 45; Mr 50; Ap 38; My 86; Je 48; Jl 48; Ag 46;		Quieter equipment, Guidelines for design-	80	Casing the Aleutian holeN	43
8 54; O 62; N 46; D	44	Reduction of noise and vibrations in a	79	NUCLEAR ENERGY	
News briefsJa 54; F 68; Mr 82; Ap 74;	-	hydraulic turbine (A)0	75	AEC in ocean explorationS	90
My 122; Je 84; Jl 82; Ag 80; S 90;		"Transparent" steelJe	51	Nuclear EEL, TheN	23
O 102; N 84; D Overseas surveyJa 40; F 50; Mr 58;	78	Vibration and noise characteristics of an		Nuclear EEL, The: a new concept in	
Ap 50; My 92; Je 56; J1 56; S 64; O 70;		aircraft-type gas turbine used in a ma- rine propulsion system (A)Jl	60	ocean freight transportation (A)Je	86
N 58; D	52	NOLAN, ROBERT W.	00	NUCLEAR ENGINEERING. See also CONTAINED	RS;
Photo briefsJa 38; F 48; Mr 60; Ap 48;		Elected ASME FellowF	87	CONTAINMENT; POWER PLANTS,	
My 90; Je 53; Jl 54; Ag 54; S 62; O 68;	***	NOLTE, C. B.		Nuclear; Reactors, Nuclear;	
N 56; D RoundupJa 52; F 66; Mr 80; Ap 72;	50	Mass flow measurement of particulate		Waste Handling Canless reactor fuel assemblies, A struc-	
My 120; Je 80; Jl 81; Ag 79; S 88;		material (A)D	56	tural analysis for (A)Ap	64
O 100; N 83; D	73	NONLINEAR SYSTEMS. See SYSTEMS,		H-power breakthrough loomingD	
NEWS BRIEFS. See NEWS		NONLINEAR		Liquid/vapor action in a vessel during	
NEWTON'S METHOD		NOONAN, EDWARD F.		blowdown (A)Ap	
Continuation of Newton's method through		Elected ASME FellowMy	152	Looking ahead in nuclear powerAg	
bifurcation points (A)N		Nordquist, H. O.	40	Nuclear center	54
NG, C. C. W.		Uses of textured metal (A)	69	Nuclear power piping codeN	
Performance of the orifice-compensated		ObituaryMr	105	Nuclear study for P. RO	102
hydrostatic face seal under pressure and		NORMAN, J. C.		Numerical solution for the mechanical	
thermal loading (A)Ap	52	Reject heat and radiation from implanted		behavior of cylindrical fuel elements, A (A)	
NIARAKIS, WILLIAM		radioisotope sources, Studies of (A)		Parallel-flow-induced vibration of a cylin-	04
ObituaryN	111	Му	105	drical rod (A)Ap	64
Nica, A. Thermal behavior and friction in journal		NORQUIST, WARREN E.		Potential of the molten salt reactor for	
bearings (A)D		Appointed director of quality control and reliability for Polaroid Corp., Cam-		power generation (A)Ap Reactor arrangement for a piped liquid	64
NICHOLS, NATHANIEL B.	0.	bridge, MassN	108	metal-cooled fast breeder reactor (A)	
Elected ASME Fellow	121	Norris, E. B.			
NICKEL		Effect of hydrogen on the strength of		Sodium-heated steam generator design	
New nickel companyJl	56	austenitic and nickel-base alloys (A)		considerations (A)Ap	
Nickel demandF		Post-irradiation fatigue properties of base	71	Unseparated fission products as a heat source (A)Ap	
NICKELSON, THOMAS S.		metals and weldments (A)Ag	71	NUCLEAR INFORMATION CENTER	
Appointed nuclear engineer in generation		NORTH, RICHARD A.		"Second sun, The" (former ferryboat	TAKE
division of Detroit Edison Co., Detroit,		Elected ASME FellowJl	121	launches new career as floating nuclear	
Mich., to be responsible for safety analysis reports for Atomic Energy		NORTH CAROLINA STATE UNIVERSITY		information center)S	
Commission's nuclear reactor and power		Carl Frank Zorowski named R. J. Rey-		NUKIYAMA, SHIRO	
plant to be built at Lagoona Beach	,	nolds Tobacco Co. professor of mechani-		Receives Max Jakob memorial award for	
Mich	151	cal engineering at North Carolina State University, Raleigh, N.C	113	1968 at 11th National Heat Transfer	
NICOL, A. A.		Northeast Corridor		Conference	12
Condensation of steam on a rotation verti-		Transit propulsion unit suspension, A new		NUMACHI, F. Cavitation tests on hydrofoils designed	m
cal cylinder (A)N	70	- proved on Northeast Corridor high-		for accelerating flow cascade:	
NICOLL, W. B.		speed test cars (A)Ag	72	Report 4 — Three profiles designed for	
Prediction of turbulent boundary layer		NORTHWEST PASSAGE		high head Kaplan turbine (A)F	
growth in adverse pressure gradients	,	Oil is where you find it: old adage yields		Elected ASME FellowAg	10

NWUDE, J. K.		Texaco to use californium-252	91	OSTRACH, S.	
Aerodynamic drag on vehicles in tunnels	-	Undersea oil trapN	49	Thick-walled viscoelastic model for the	-
(A)0	75	OLDENBURGER, RUFUS		mechanics of arteries (A)	79
		Theory of distributed systems (A)0	76	OUTWATER, J. O.	
and the second s		Olson, Norman C.		Engineering problem of ski safety, The	78
0		ObituaryAp	102	Overseas Survey. See News	
Lagrange Company		OLSON, ROBERT L.			
Onumerana		Elected vice-president, director of opera-		Owen, N. L.	
OBITUARIES		tions of ITT Gillfillan Inc., Van Nuys,	-	Field assembly and erection of heavy- wall hydrocracking reactors (A)Mr	68
Ja 102; F 88; Mr 105; Ap 102;		CalifAp	97	Owen, T. J.	00
My 154; Je 103; Jl 124; Ag 108; S 116; O 128; N 110; D	100	OLYMPUS		Controlled environment storage facility	
O'BRIEN, MATTHEW F.	100	Olympus powered Brown Boveri gas tur-		for nuclear waste containers, A (A)	
ObituaryN	***	bine machinery of the Finnish Navy		Ap	63
O'BRIEN, MORROUGH P.	***	700 ton gunboat, Experience with the	and.	OXFORD, CARL J., JR.	
Elected to National Academy of Engineer-		(A)JI	69	Elected ASME FellowF	87
ingS	119	OPERATIONS RESEARCH		Oxygen .	
OCEAN ENGINEERING	110	Operations research, decision theory, and		Oxygen dynamics and economic growth	
A systems approach to O. EMy	105	the changing nature of engineering de-	79	in the Millstone River (A)S	80
Gas turbine sea salt problems and solu-	140	sign (A)0	15	Ozisik, M. N.	
tions, History of (A)Jl	61	OPTICS		Transient freezing of liquids in forced	
Makai undersea test range (A)F	54	Flare inspection instrumentN High-speed camera synchronizationMr	46 51	flow inside circular tubes (A)My	94
Naval Ship Research and Development		Hydraulic systems for a 140-ft radio tele-	91		
Center's ocean pressure laboratory, The		scope (A)F	61		
(A)F	55	Miniature laser circuitsS	58		
Ocean simulation laboratory, An (A)F Soil mechanics and foundations for ocean	54	Optical alignment instrumentJe	56	April 14th white of the second	
engineering purposes — present status		Optical alignment manualS	54		
(A)Jl	69	Optical sensors (A)S	74	PACIFIC UNION COLLEGE	
OCEAN EXPLORATION	00	Optical study of a fluidic temperature	20	Lockheed donates "big dish" to Pacific	
AEC in ocean explorationS	90	sensor (A)Mr	63 63	Union College for radio astronomyJe	76
OCHSNER, ALTON	20	Optically exciting a magnetic memoryO Producing conical fiber optical com-	00	PACKAGING	
Hazards of air pollution, The - fact or		ponentsS	54	Sterilizing the packaged productJa	24
fiction?	37	Sine bar measures small anglesMy	86	Page, R. H.	0.0
"Nonpersonal" air pollution (C)N	77	Use of light in design - infrared (A)		Turbulent, compressible free shear layers,	
O'CONNOR, J.		S	67	Initial development of (A)Je	63
Titanium castings in gas turbine engines,		OPTIMIZATION		PAI, S. I.	-
The potential of (A)Jl	62	Optimization of a viscoelastic structure:		Linearized theory of three-dimensional	
Odar, F.		the seat-belt problem (A)D	66	jet mixing with and without walls (A)	
Unsteady motion of a sphere along a		Optimization techniques in design (A)S	67	0	78
circular path in a viscous fluid (A)Je	65	OREGON		Pakistan	
Odbert, John T.		Board of Engineering Examiners		Nuclear-powered turbine-generatorJl	56
ObituaryN	111	Harry Czyzewski elected presidentD	96	PALL, LEIF W.	
O'Donell, William J.		ORIFICES		Wanted: society support (C)Ag	77
Appointed advisory engineer for KPA		Effects of orifice plate eccentricity on		Palladino, Nunzio J.	
Computer Techniques, Inc., Pennsyl-		flow coefficients, Experimental study		Elected vice-president of American Nu-	
vania and New JerseyJe	99	of the (A)Je	62		125
O'DONNELL, JOHN H.		Performance of two annular diffusers,		PALMER, M. F.	
ObituaryS	116	The effect of inlet conditions on the	-	Thoracic force-deflection studies in pri-	
O'Donnell, W. J.		(A)Mr	63	mates (A)S	78
Built-in ends of beams and plates, Local		Pressure measurements at surface and throat of a pipe orifice, Some (A)Je	62	PALUSZEK, ADAM T.	
flexibility coefficients for the (A)Mr	67		0.0	ObituaryF	89
OEDERLIN, FREDERICK		ORNER, P. A.		Pamidi, Prabhakar R.	
Obituary	116	Linear dynamic modeling of flowing fluid	77	Unmarried engineer, An (C)Ag	75
OETJEN, ROBERT H.		Stochastic testing methods for fluid ampli-		PAN, C. H. T.	
Named manager, West Haven, Conn.,		fiers (A)Ap	58	Dynamics response of a double squeeze-	
branch office, Carrier Air Conditioning		Vortex amplifier, Analysis and modeling		film thrust plate (A)D	62
Co	95	of the (A)0	78	Pulsating flows in infinite and finite coni-	00
OFFNER, D. H.		ORNING, ARTHUR A.		cal nozzles, Analysis of (A)0	06
Shoe-type brake-clutch systems, Gener-		Elected ASME FellowAp	100	PAN, Y. S.	
alizing the analysis of (A)Mr	99	ORR, ALEXANDER M.	200	Numerical solution for the mechanical behavior of cylindrical fuel elements,	
OFFSHORE OPERATIONS			111	A (A)Ap	84
Code quality hyperbaric welding of off-		ObituaryN	111	PAO, YIH-HSING	
shore pipelines (A)N		ORTHOPEDICS		Vibration and dynamic instability of a	
Gas turbine packages	50	Stresses in orthopedic walking casts (A)	200	beam-plate in a transverse magnetic	
Offshore oil fields, Optimization studies	00	8	77	field (A)	80
in the development of (A)N		OSCILLATION AND OSCILLATORS		PAPAVERO, T. G.	
Thyristor-driven drilling rigMy	93	Confined vortex oscillator, A theoretical		Piping efficiency program (PEP), A (A)	
Undersea oil trapN	49	and experimental investigation of a		***************************************	62
Ogawa, K.		Density effects on fluidic feedback oscil-		PAPELL, S. S.	
Balancing of the fluctuating input		lators (A)O		Inlet effects on boiling and near critical	
torques caused by inertia forces in the		Dynamic response of pulmonary airways		hydrogen heat transfer (A)N	65
crank-and-rocker mechanisms, On the		to imposed pressure oscillations (A)		Pardo, J. A.	
(A)Ji	45	Mr	67	Cableway operation at Mossyrock Dam	
OGRAM, ALFRED		Electrodynamic oscillating compressors		(A)D	57
Protecting the public (C)	82	Part 1 — Design based on linearized		PARISEAU, W. G.	
OHIO STATE UNIVERSITY		Part 2 — Evaluation of specific designs	74	Gravity flows of ideally plastic materials	
Charles W. McLarnan named provost and		for gas loads (A)0		through slots (A)Ja	-
executive assistant to vice president		Forced and self-excited oscillations in		Parisse, R. F.	
for administrative affairs	96	propellant lines (A)0	75	Dynamic response of cylindrical and coni-	
Research Foundation		Free, periodic, nonlinear oscillation of an		PARKER NORMAN A	91
Bioengineering subcontractsJ	85	axially moving strip (A)0	81	PARKER, NORMAN A. Receives 1969 distinguished engineering	
OIL		Instability thresholds predicted by the		alumni award from College of Engineer-	
Decline in oil prices	79	single-phase representation of water		ing at University of Colorado, Boulder,	
How oil is meeting needs of the process		(A)My		ColoS	
industries (A)		Longitudinal oscillation of a liquid-filled, elastic, cylindrical-conical tank (A)Ag		PARKINS, D. W.	117
Low sulfur industrial fuel oils (A)Je Oil as an industrial fuel, A crystal bal		Oscillating conveyors, On the design of		Assessing unbalance effects in a small	
view of (A)		(A)Ja		turbo-rotor (A)S	
Oil is where you find it: old adage yields	1	Oscillating conveyors, On the design of:		PARKINSON, J. S.	
new problems (U.S., USSR face tough	1	case of simultaneous normal and long-		Corrosion resistance of reinforced plas-	
transporting problem)	88	itudinal oscillations (A)D	57	tics (A)S	6

PARKS, A. J.		Pearce, M. B., Jr.		Engineer unions on decline	
Performance of the orifice-compensated		Anaerobics — a new approach to gaskets		Engineer's plight, The (C)Mr	74
hydrostatic face seal under pressure		Ag 26; (A) Ap	66	Management planning to avoid techno-	
and thermal loading (A)Ap	52	PEARSALL, GEORGE W.		logical obsolescence of engineering and	
PARKS, V. J.		Appointed acting dean of school of engi-		Scientific personnel (A)Ap New breed, A: the industrial project man-	90
High-frequency stress waves propagating		neering, Duke University, Durham,		ager (A)Ap	57
in bars and plates, Photoelastic study		N.C0	126	PERTURBATION	
of (A)Je	60	PECK, J. C.		Magnetic perturbation inspection to im-	
PARMAKIAN, GEORGE		Dispersive pulse propagation parallel to		prove reliability of high strength steel	
Appointed vice - president engineering,		the interfaces of a laminated com-	-	components (A)S	68
Riley Stoker Corp., Worcester, Mass.	100	posite (A)N	75	Peschl, I. A. S. Z.	
Parmakian, John	100	Experiments on dispersive pulse propaga- tion in laminated composites and com-		Arches in bins, Theory of the formation	
		parison with theory (A)N	76	of (A)	42
Receives 1969 distinguished engineering alumni award from College of Engineer-		Peck, J. V.		PETER, A. F.	
ing at University of Colorado, Boulder,				Practical holographic mode shapes on tur-	
Colo	114	Diffusion bonding Ti-6A1-4V for jet en- gine applications (A)	67	bine blades (A)Ag	64
PARNES, RAYMOND	***	Pefley, Richard K.	0.	PETERS, HARRY	
Traveling loads in a cylindrical bore, Re-			115	Named director of and vice-president of	
sponse of an infinite elastic medium to		Elected ASME FellowS	110	engineering for Fischer & Porter Co.,	
(A)0	83	PELECH, I.		Warminster, PaS 114; D	95
PARRISH, R. J.	00	Effects of curvature on laminar boundary	00		
Humble's King Ranch oil production sys-		layers in sink-type flows (A)Je	63	PETERS, J. C.	
tems (A)	60	PELL, CLAIBORNE		Energy transmission and energy conver- sion system for artificial heart assist	
PARROT, T. L.	00	Metrication for the United States	10	devices, An (A)My	106
Energy transmission and energy conver-		Congress needs answersMy	12		100
sion system for artificial heart assist		PELLINI, W. S.		Peters, Ralph C.	
devices, An (A)My	106	Temperature transition from linear elastic		ObituaryN	111
PARTICLES	100	to gross strain fracture conditions, Dy-		PETERSON, GEORGE E.	
		namic tear test definition of the (A)		ObituaryAp	102
Deposition of small particles from turbu-	an		63	Peterson, M. B.	
lent streams, On the (A)N	67	PELTON, HOWARD K.			-
Gas-borne flowing particulate suspensions, Similarity in (A)Ja	44	Named vice-president, Dynasonic Systems,		Nonmetallic bearing materials (A)S	68
Lateral motion of individual particles in	-4	Inc., Dallas, Tex.		Ретітт, R. C.	
channel flow — effect of diffusion		PENDULUM		New 11,000 hp industrial gas turbine,	
and interaction forces		Motion of a spherical pendulum, A simple		Design and development of a (A)Ag	68
Part 1 - particle behavior as a func-		description of the (A)N	74	Petroleum	
tion of systematic motion (A)N	66	Pennell, W. T.		Airplane jet fuel service-station style	
Particle behavior, storage, and flow (A)				(A)N	64
Ja	43	Laminarization of turbulent flow in a circular porous tube with uniform mass		Analytical techniques for evaluation of	
PARTICULATE MATERIAL		injection through the tube wall (A)N	67	compressor-manifold response (A)N	63
Mass flow measurement of particulate			01	Anhydrous ammonia — metering (A)N	64
material (A)D	56	Pennington, J. V.		Calculation of allowable maximum casing	
PARTRIDGE, EVERETT P.	-	Elected ASME FellowD	97	temperature to prevent tension failures	
Obituary	194	Pennington, John W.		in thermal wells (A)N	63
Paschkis, V.	104	Elected ASME FellowAg	105	Chemical plant maintenance management,	
Conflicts in engineers' responsibilities —				A concept for (A)N	65
personal decision (A)My	107	PENNY, R. K.		Closed power water/oil hydraulic pump-	
PASLAY, PAUL R.	101	Shakedown as a guide to the design of pressure vessels (A)Mr	69	ing (A)N	60
		**************************************	00	Code quality hyperbaric welding of off-	-
Small-strain plasticity theory for planar	81	Pensions		shore pipelines (A)N	60
alip materials, A (A)0	91	Bills on pensionsMy		Development of a quintuplex mobile ser-	
PATE, S. R.		More support for engineers (C)Je	73	vice pump (A)N	62
Errors in sonic nozzle mass flow measure-		Mr. Moen's reply (C)	71	Developments in marine drilling riser	62
ments at high supply pressures and		Society support (C)0	92	technology (A)	60
moderate temperatures due to real gas	00	Wanted: society support (C)Ag	76	Diverters for T.F.L. tools (A)N Electric - hydraulic control system for	00
effects (A)Je	62	Percival, J.		underwater Christmas trees (A)N	60
PATEL, A. T.		How oil is meeting needs of the process		Electrochemical machining (ecm) of oil	
Analytical investigation of fully developed		industries (A)Je	69	field valves (A)N	60
laminar flow with heat transfer and		Percussion		Evaluation, selection, and testing of proc-	0.
variable fluid properties in a rotating		Automatic machine for percussive weld-		ess heaters (A)N	60
tube (A)F	59	ing of contacts on miniature wire spring		Fatigue failures induced in heat ex-	
PATEL, G. C.		relay single wire combs, An (A)My	102	changer tubes by vortex shedding (A)	
Seam puckering as a mechanical insta-				N	60
bility phenomenon (A)S	76	Periodicals. See Literature		40-in. stopple equipment for emergency	
PATEL, P. D.		Peristalsis		repair of pipelines (A)N	62
Distributed loads on long cylinders, Solu-		Peristaltic transport (A)Je	67	Gas turbine packagesS	64
tions for (A)Mr	67	Peristaltic waves in circular cylindrical		Humble's King Ranch oil production sys-	
PATENTS		tubes (A)N	73	tems (A)N	60
Revise patent lawsMr	83	PERKINS, CHARLES H.		Kenai (Alaska) LNG plant design (A)N	60
PATTERSON, DAVID WILLS		Elected vice-president of Robertshaw Con-		LNG piping supported in a flexible wharf,	
ObituaryF	89	trols Co., Richmond, VaAp	97	Design of (A)N	63
PATTERSON, F. M.	-	PERKINS, H. C.		Load and stability analysis of tubular	
Critical submergence for vortexing in a		Transition from the turbulent to the lami-		strings (A)N	64
		nar regime for internal convective flow		Measuring static charge density in a flow-	ar
vertical cylindrical tank, Experimental investigation of (A)		with large property variations (A)N		ing fluid, A system for (A)N New look at plunger pump suction re-	68
	10		30	quirements, A (A)N	61
PATTERSON, ROBERT W.		PERLIS, H. J.		"New" plant maintenance engineer (as	-
Named manager of mechanical depart-		Optimization of a class of river aeration		viewed by one in transition), The (A)	
ment, Sargent & Lundy, Chicago, Ill.		problems by use of multivariable dis-		······································	61
D D	107	tributed parameter control theory (A)	70	Offshore oil fields, Optimization studies	
PAUL, BURTON		S	79	in the development of (A)N	6
Dynamic stability of a vibrating hammer		PERRY, HARRY		Optimizing the performance of large ball	
(A)Ag		Electricity from coal: the cycles		control valves for motor-driven pump	
Periodic motions of a two-body system		Part 3Ja	24	stations (A)N	6
subjected to repetitive impact (A)Ag	58	Persian Gulf		Pipeline pumps for anhydrous ammonia	
Paving		Gas turbine packagesS	64	(A)N	6
Influence of road-surface texture on tire-			94	Pipelining anhydrous ammonia (A)N	6:
road interface traction limits (A)D		PERSON, EARL R.	400	Piping efficiency program (PEP), A (A)	
PAVLIN, CYRILLE		Obituary	111	N	6
Confined vortex oscillator, A theoretical		Personnel		Proportional speed floating control for	
and experimental investigation of a (A)		Big dollar, The (compensation programs		liquid pipe lines (A)N	6
		for engineers)		Pulsation effects on reciprocating com-	
PEACE		He played the game (C)Mr		pressors (A)N	
		Computer-aided systems approach to per-		Single acting triplex pumps for mud ser-	
Peace from the tap?F	47	sonnel administration, On a (A)Ap	57	vice (A)N	6

Petroleum (Continued)		Electrohydraulic power systems for use		Linearized wave propagation models for	
Steam-hydrocarbon reformer furnace de-	00	in artificial heart and circulatory assist- devices, Development of (A)Ap	55	arterial blood flow analysis, Comparison of (A)	78
sign (A)	62	Energy transmission and energy conver-	-	New oil fieldF	50
monia pipeline (A)N	61	sion system for artificial heart assist		Pipeline bridgeD	52
Transition from land to lake operations		devices, An (A)	106	Pipeline pumps for anhydrous ammonia (A)	64
in I.A.B. field (A)	61	tures with symmetric saddles, Theoret-		Pipelining anhydrous ammonia (A)N	61
tions (A)N	63	ical analysis of (A)S	77	Pressure transients in hydraulic pipelines	
Wear life expectancy of USA Standard		Fuel cell power supply for the artificial heart, Studies on a (A)Ap	54	Proportional speed floating control for	61
B29.1 roller chain (A)N	64	Head trauma — a parametric dynamic	-	liquid pipe lines (A)N	63
PETROLEUM INDUSTRY Glass-lined pipe	14	study (A)8	79	Storage facilities associated with an am-	
New England "burns" Je	85	Heartening prospects	45	monia pipeline (A)	61 45
No solution (C)Ag	75	impedance analyses (A)S	77	Thick-walled viscoelastic model for the	-
New oil fieldF	50	Implantable artificial heart, AnS	20	mechanics of arteries (A)S	79
Experimental investigation of heat trans-		Implantable, Rankine - cycle circulatory support system, Design of an (A)Ap	54	Two-phase eccentric interface laminar pipeline flow (A)	74
fer in boiling dissociative liquid (A)N	67	Intact skin transformer for artificial	04	Underwater pipeline repairs — conven-	
PFEFFER, A.		hearts (A)My	106	tional and new (A)Je	56
Air pressure in the bulk of granular solid		Linearized wave propagation models for arterial blood flow analysis, Compari-		Valve characteristics for pipeline applica- tions (A)N	63
discharged from a bin (A)Ja PHASOOK, SOMPONG	44	son of (A)S	78	PIPES AND PIPING. See also PRESSURE	•
Confined vortex oscillator, A theoretical		Literature related to problems of gas em-		VESSELS AND TECHNOLOGY	
and experimental investigation of a (A)		bolism in human body, Survey of (A)	79	Aircraft steam catapultsMr	42
P0	77	Mechanical heart assists, Development	19	Improved design, An (C)My	111
PHELPS, RALPH HUYETT Retires after 23 years as director of En-		of (A)Mr	67	Analytical techniques for evaluation of compressor-manifold response (A)N	63
gineering Societies LibraryJa	99	No bones about itD	48	Application of primary sealing criteria	
PHILIPP, JOHN	00	Power transer device for mechanical hearts, A (A)Ap	55	to a self energized gasket (A)Mr	68
Promoted to chief mechanical engineer at		Precursor cerebral circulation models (A)	-	Armored glass pipe system0	70
Burns and Roe, Inc., Oradell, N.JN	108	······································	77	Axisymmetric, nonidentical, flat face flanges with metal-to-metal contact	
PHILLIPS, E. C. Determination of properties of capillary		Rheological properties of canine anterior cruciate ligaments (A)S	78	beyond the bolt circle (A)Mr	67
media useful in heat pipe design (A)		Stirling engine module to power circula-	18	Boundary-layer velocity distribution in	
N	67	tory assist devices, A (A)Ap	54	turbulent swirling pipe flow, The (A)	72
PHILLIPS, JAMES R.		Stresses in orthopedic walking casts (A)		Buckling of an ellipsoid due to internal	72
Named vice - president, turbomachinery		Thick-walled viscoelastic model for the	77	pressure (A)Mr	68
sales, Solar Division of International Harvester, San Diego, CalifN	107	mechanics of arteries (A)S	79	Built-in ends of beams and plates, Local	-
PHILLIPS, MICHAEL I.	101	Viscoelastic properties of scalp, brain, and		flexibility coefficients for the (A)Mr	67
Joins Rohm and Haas Co., Bristol, Pa.,		dura, Some (A)	77	Cooling the electron	59
as a project design engineerD	95	Waste heat dissipation from artificial hearts — engineering constraints (A)		nuclear power piping (A)My	107
PHILLIPS, N. S.		Му	105	Distributed loads on long cylinders, Solu-	
Human body nonlinearity and mechanical impedance analyses (A)S	-	Pianos		tions for (A)Mr	67
Phonics	77	Music in a simple key	67	Effect of creep in low-cycle faulgue of	
Speed hearing0	67	PIEPER, K.		pressure vessels steel (A)Ag Effect of hydrogen on the strength of	71
PHOTO BRIEFS. See News		Silo loads in measuring models, Investiga- tion of (A)Ja	44	austenitic and nickel-base alloys (A)	
PHOTO COPIERS		PIERCE, F. J.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	71
Paper jam releaseP	40	Simultaneous lateral skewing in a three-		Effect of mean stress and of mean strain in low-cycle fatigue of A-517 and A-201	
PHOTOCHEMICAL IGNITION. See IGNITION	-	dimensional turbulent boundary-layer	76	steels (A)Ag	71
PHOTOELASTICITY		flow (A)0	10	Effluence, A matter ofF	41
High-frequency stress waves propagating		PIERCE, W. S. Implantable valveless heart assist pump,		Elastic-plastic analysis of flat plates by	61
in bars and plates, Photoelastic study		An (A)Ap	59	the finite element method (A)Mr Failure behavior in axially flawed ASTM	0.
of (A)	65	PIETSCH, W. B.		A106B pipes (A)	56
liminary design (A)Mr	70	Adhesion and agglomeration of solids		Field assembly and erection of heavy-	
PHOTOGRAPHY, See also INFRARED		during storage, flow, and handling, -	49	wall hydrocracking reactors (A)Mr	68
Рнотоспарну		a survey (A)Ja	43	Forced and self-excited oscillations in pro- pellant lines (A)	72
High-speed camera synchronizationMr	51	PIEZOELECTRICITY Application of the piezoelectric effect		Glass-lined pipeJa	14
Infrared tire testN	51	for energy converters of the artificial		Glass-pipe, Doubled-walledJa	31
Reproducing 35-mm color slidesJi Use of light in design — infrared (A)S	49 67	heart program (A)Ap	54	Investigations on piping components,	
Photons		Рін, Н.		valves, and pumps to provide informa-	
Photochemical ignition for high-altitude		Vibration of axially excited circular cy-		tion for code writing bodies (A)My	10
flightsJe	47	lindrical shells containing fluid, Experi- mental studies of (A)Ag	60	Laminarization of a turbulent pipe flow by buoyancy forces (A)N	66
PHOTOSYNTHESIS		PINKSTAFF, CARLOS D.	1	Linear dynamic modeling of flowing fluid	-
Contribution of photosynthetic reaeration		Named sales manager of pneumatic logic		lines (A)0	7
to total reaeration of the Passaic River	80	and fluidic control devices and coordina-		LNG piping supported in a flexible wharf,	
Physiology	80	tor of sales training and technical as-		Design of (A)N	61
Application of the piezoelectric effect for		sistance for Parker Hannifin Corp., Des Plaines, Ill	151	Load and stability analysis of tubular	6
energy converters of the artificial heart		Pinkus, O.	202	strings (A)	0
program (A)Ap Artificial heart program, TheJe	54	Three-dimensional boundary layers on		piping systemN	54
Axisymmetric response of a fluid-filled	20	cones at small angles of attack (A)Je	66	Model tests of material flow through	
spherical shell to a local radial impulse		PIPELINES. See also PLASTICS		dredge cutters and suction piping (A)	-
—a model for head injury (A)S	77	Airplane jet fuel service-station style (A)		Norden seiden auf	54
Blood flow in lung alveoli models, Experi- ments on (A)	66 .	Anhydrous ammonia — metering (A)N	64	Nuclear power piping codeN Piping efficiency program (PEP), A (A)	8
Carbon as human implant materialN	47	ASME members appointed to U.S. Depart-	-	Piping efficiency program (PEP), A (A)	6
Computerized biomechanical model, A -	4343	ment of Transportation's Technical		Plastic limit pressures of reinforced open-	
development of and use in studying	70	Pipeline Safety Standards Committee	109	ings in cylindrical shells, Experimental	
gross body actions (A)S Dynamic flow characteristics of prosthetic	77	Automation systems for large gas pipe-	103	investigation of the (A)Mr	6
heart valves, A method for analyzing		line compressors (A)S	75	Post-irradiation fatigue properties of base	
the (A)Mr	66	Code quality hyperbaric welding of off-		metals and weldments (A)Ag	7
Dynamic mechanical properties of human brain tissue (A)S	77	shore pipelines (A)	60	Pressure measurements at surface and throat of a pipe orifice, Some (A)Je	63
Dynamic response of pulmonary airways		repair of pipelines (A)N	62	Progressive waves moving through a cir-	MI
to imposed pressure oscillations (A)	-	Large diesel engine, The - its role in		cular pipe containing a rotating flow	
••••••••••••••••••••••••••••••••••••••	67	automated pipelines (A)S	75	of water with an axial cavity (A)0	73

PIPES AND PIPING (Continued)		Plastic storage tanks, Analysis and de-		Polakowski, N. H.	
Progressive waves on swirling cavity flow		sign of (A)Ja	42 89	Product flatness in strip rolling mills,	
in a circular pipe (A)	73	Plastics life span	29	The second section of the second section is a second section of the second section of the second section of the second section	101
fluid lines with turbulent flow (A)O	76	"Trans-Ject" combination bondAg	45	POLITICAL SCIENCE	-
Stability of cylindrical bubbles in a verti-	10	Ultrasonic joining of plastic parts (A)S	73	Reading list (C)Ja	48
cal pipe (A)	87	PLATES		Politics	90
Stainless steel primary piping for the high		Anisotropic plate steel, Neck-and-split		Prometheus unboundN	20
flux beam reactor (A)F	61	tensile fracture of (A)F	56	Polk, Louis F.	
Transition from turbulent to laminar gas	**	Cavitation at the ends of an elliptic in-		Metrication for the United States	22
flow in heated pipe, The (A)	69 45	clusion inside a plate under tension (A)	00	What are the options?My Named chairman of Metric System Study	
Unsteady flows in natural gas piping sys-	40	Double of normanant indentations in flat	66	Advisory Panel established by U.S.	
tems, Analysis and control of (A)F	61	Depth of permanent indentations in flat plates due to loaded cylindrical rollers		Secretary of CommerceD	95
Velocity profiles and eddy diffusivities for		(A)0	83	POLLUTION, AIR	
fully developed, turbulent, low Reynolds		Dynamics response of a double squeeze-	-	"Air Pollution" (BR)	79
number pipe flow (A)Mr	62	film thrust plate (A)D	62	Air pollution studyD	78
PISTONS		Effect of a central circular hole on funda-		APCA annual meeting	
Lunar pogoP	43	mental plate frequency (A)Ag	63	New York mayor presents three-point	
PITTING		Effects of orifice plate eccentricity on		plan for air pollution controlAg	79
ND testing for corrosion pitting0	60	flow coefficients, Experimental study of	62	Billion \$ investmentF	68
PLANETARY MISSIONS		the (A)	40	Catalytic-oxidation system for removing	
Planetary slingshot0	61	flat plate, Analysis of the (A)	84	SO, from flue gas, The (A)Mr	71
PLANKTON	0.	Elastic-plastic analysis of flat plates by	-	Fuel additives for the suppression of die-	
	100	the finite element method (A)Mr	67	sel exhaust odor and smoke	
Sea GulliverMy	123	Finite deflections of an elastic circular		Part 1: Proposed mechanism for smoke	
PLANNING		plate with a central hole (A)0	83	suppression (A)Ap	58
Humble's King Ranch oil production sys-		Flexural vibration of rectangular ortho-		Part 11: Field trials (A)Ap	57
tems (A)N	60	tropic plates, The (A)	80	Hazards of air pollution, The - fact or	37
PLANT ENGINEERING. See also MAINTENANCI	E.	Heterogeneous anisotropic plates, Anal-	81	fiction?	77
Computer scheduling and simulation sys-		ysis of (A)	91		102
tem (A)Ag	73	in bars and plates, Photoelastic study		Laser to measure pollutionAg	80
Effective engineering management (A)	70	of (A)Je	65	Law sulfur fuels, Engineering for (A)	-
Evaluating computer control in processes	73	How thickness and material properties in-		Mr	71
(A)Ag	73	fluence thermal shock stresses in flat	11	Monitor for sulfur in coalAg	80
Fossilectric ratio, The (A)F	61	plates and cylinders (A)Ag	68	NAPCA joins NASA in researchAg	81
Hydraulic systems for a 140-ft radio tele-	-	Influences of large amplitudes, transverse		Natural resources management	-
scope (A)F	61	shear deformation, and rotatory inertia		Part 1: AirMr	25
Iron deposition and well fouling at Brook-		on lateral vibrations of transversely	01	Automotive pollutants (C)Je	73
haven National Laboratory (A)F	61	isotropic plates (A)O Laminar wake behind a finite flat plate,	81	New controls for SO ₂ Ag	80
Is plant security for you? (A)Ag	74	A numerical solution for the (A)Je	66	New England "burns"	
Planning for effective results (A)Ag Planning, scheduling, and control system	73	Limit analysis of plates, Numerical me-	-	No solution (C)Ag	71
for an engineering design group, De-		thods for the (A)Je	66	Nitrogen oxide emission studyJa	54
velopment of a (A)Ag	74	Resistance of an inclined plate placed on		Novel incineratorJa	51
Plant engineer's impact upon safety (A)		a plane boundary in two-dimensional		Overflow L. A. meeting hears Lear	
Ag	73	flow (A)0	73	(steam car described as answer to air	
Pollution control: federal leadershipF	20	Stress intensity factors for edge cracks		pollution)	101
Practical maintenance planning and per-		in rectangular plates with arbitrary		Pollution control: federal leadershipF	2
formance evaluation (A)Ag	74	loadings (A)F	57	Pollution equipment: 100% increaseF	61
Proprietary plant protection systems (A)		Stresses near an oblique elliptical aper-		Settling of dust particles borne by hot	
Stainless steel primary piping for the	73	ture in a large plate, On the (A)Mr	72	chimney plumes, On the (A)Mr	7
high flux beam reactor (A)F	61	Unbonded contact between plates and an	90	Smoke emission0	10
Utilities: scheduling maintenanceJa	20	elastic half space, On the (A)O	82	Stationary engines — air polluter or not?	7
Vibration monitoring (A)Ag	73	Vibration and dynamic instability of a		(A)	9
PLASMA		beam-plate in a transverse magnetic field (A)0	80	Super scrubberS	9
H-power breakthrough loomingD	37		-	POLLUTION, WATER	
PLASTICITY		PLEVYAK, T. J.		Cost of industrial and municipal waste	
Axisymmetric plane stress problems in		Improved boiling heat transfer with in- duced vapor bubble mixing (A)Je	61	treatment in the Maumee River basin	
anisotropic plasticity (A)0	80		01	(A)	7
Bounding principle in the theory of work-		PLOTKIN, A.		"Grand conceptor" award	8
hardening plasticity, A (A)0	81	Laminar wake behind a finite flat plate, A numerical solution for the (A)Je	66	Meteorological and hydrological drought in Raritan River basin in New Jersey	
Combined longitudinal and torsional plas-			00	(A)	7
tic wave propagation, Elastic-plastic		PLUNKETT, R.		Natural resources management	
boundaries in (A)Je	67	Multi-parameter optimum in linear dy-	85		3
Elastic-plastic analysis of flat plates by the finite element method (A)Mr	67	namical systems (A)Ag	00	New England "burns"	
Elastic-plastic plane-strain solutions with	61	PLUNKETT, ROBERT		No solution (C)Ag	7
separable stress fields (A)N	75	ASME department vice-president and		Optimization of a class of river aeration	
Elastic-plastic stress distribution in a		policy board chairman, basic engineer-	103	problems by use of multivariable dis-	
compressed ring (A)Mr	72	ing (1970-1972)N	100	tributed parameter control theory (A)	-
Elastic-plastic, work-hardening arches (A)		PLUTONIUM		8	7
0	82	Plutonium makeup fuelJa	34	Phenolic compounds in New Jersey's	
Impulsively loaded elastic-plastic beams,		Plywood		streams, Occurrence and distribution of	0
Approximate solutions for (A)Je	66	Research on plywood for material hand-		(A)	
Limit plasticity approach to some cases of flow of bulk solids (A)Ja	44	ling applications (A)D	54		9
Numerical comparisons in elastic-plastic	70.0	PNEUMATICS		POLLUTION CONTROL	
torsion, On (A)Je	65	Development of a pneumatic sensor for		Cleaner environment	8
Small-strain plasticity theory for planar		measuring the torque of instrument ball		Garbage disposal	10
slip materials, A (A)0	81	bearings (A)0	84		
PLASTICS		Hazards in pneumatic fluidic circuits (A)	61	PolyBenzimidazole	
Anaerobics — a new approach to gaskets		Pneumatic analog-digital and digital-ana-	31	Development of polybenzimidazole bonded	
Ag 26; (A) Ap	66	log converters (A)Ap	60	solid-film lubricants (A)D	
Bird stopperAg	51	Pneumatic backfilling (A)D	57	POLYMERS	
Corrosion resistance of reinforced plas-	60	Pneumatic diaphragm logic		See-through rubberAp	4
ties (A)	68 41	Pneumatic transport of fine granular		POLYTECHNIC INSTITUTE OF BROOKLYN	16
Flow of a melted plastic through a screw	41	material (A)Ja		Management program at PIB	10
extruder, Prediction of (A)F	62	Transients in pneumatic transmission lines		Recruitment heaviest in history of Poly-	
Gravity flows of ideally plastic materials		subjected to large pressure changes (A)	20	technic Institute of BrooklynJe	1
through slots (A)Ja	44	D A	79	Pomper, A. W.	
Interferometer control of cutting depth	**	Poix, A.		Appointed manager, plastic machinery	
Tors houses to the every	46	Hazards in pneumatic fluidic circuits (A)		with Waldron-Hartig Division, New	
Less bounce to the ounceJa	33	Ap	61	Brunswick, N.JJe	- 1

The force of the protection of the analysis of the protection of t	POOLE, ROBERT W., JR.		Power Plants		Application of primary sealing criteria to	
Oblitary — 600 Marker for pumpine plants of the province, Manne of the Personal Control of the Persona		75	Centrally located controls for an indus-		a self energized gasket (A)Mr	68
Gas turkinens: a modern approach to in- disabiling in lightly loaded high-speed hall Provocing, Millions Belied ABER Follow— 1 20 Provocing, Millions The (A)—Copy— Constitution of the floring shills, First approximation for firer through a A first approximation for firer thr		22	trial power plant (A)D			
destriel power plant againstone (A.)—1 of the Park line of the Control power plant againstone (A.)—1 of the Park line of the Control power plant against (A.)—2 of the Control power plant against (A.)—3 of the Control power plant against (A.)—4 of the Control power plant against (A.)—4 of the Control power plant against (A.)—5 of the Control power plant against (A.)—5 of the Control power plant against (A.)—6 of the Control power plant (A.)—6 of the Control power plant against (A.)—7 of the Control power plant against (A.)—7 of the Control power plant against (A.)—7 of the Control power plant (A.)—7 of the Contr	Popt Awart I V	103		69	yond the bolt circle (A)Mr	67
Color Colo			dustrial power plant expansions (A)Jl	62	"Ben Franklin" emerges from Gulf	100
Proportion, Millione From College Fellow From Col	thrust bearings (A)0	86				100
Southhand Paper's combined cycle power to find the power to the failure under trainal after that the power to the failure under trainal after that the power to the failure under trainal after that the power to the failure under trainal after that the power to the failure under trainal after that the power to the power to the failure under trainal after that the power to the power to the power to the power to the power of the power of the power of the power of the power. Powers. Proves. Powers. Pow			"Power City"			69
Salfar-deadle seward from power plant and the critical pressure of the proper on the A (A) — A power table, A (A) — A power power waterful hydraule performance of the power table, A (A) — A power gravation, A (A) — B power, A (A) — B power table, A (A) — B po	Elected ASME FellowJa	100	Southland Paper's combined cycle power		Brittle rock failure under triaxial stress	
take gas by limentous injection plantical process that all considerable contents of the conten				64	Rubble flow up to the critical pressure	98
seaks time at TVA (A)	The (A)	48			(A)0	87
Experiences on startup and trial operations of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started as the state of the same and plates, Local methods are not started to the state of the same and plates, Local methods are not started to the state of the same and the state of the same and plates, Local methods are not started to the state of the same and plates, Local methods are not started to the state of the same and plates, Local methods are not started to the state of the same and plates, Local methods are not started to the state of the same and plates, Local methods are not started to the state of the same and plates, Local met	First approximation for flow through a		scale tests at TVA (A)D	58	Buckling of an ellipsoid due to internal	**
model with rectangular boundaries (A) POPOPORTES POPOPORT POPO	Natural convection in enclosed parame	73			Pullt in ends of beams and plates Local	08
POWER PLAYS, NCLEAR ACTIONS PROVED THE CALL THE POWER PLAYS, NCLEAR ACTIONS PROVED THE CALL THE POWER PLAYS, NCLEAR ACTIONS PROVED THE CALL THE POWER PLAYS, NCLEAR POWER PLAYS, NCLEAR ACTION PROVED THE CALL THE POWER PLAYS, NCLEAR POWER PLAYS, NCLEAR ACTION PROVED THE PLAYS PRO				64		67
Advanced steam turbealteranter for nu- detar application, Design of an (A.)	N	70		-	Calculation of rod bundle pressure loss	-
FORTER, R. E. Stresses in orthopolic walking casts (A) FORTER, ROY H. Oblitary FORTER, J. H. FORTER, J. H. FORTER, J. H. FORTER, KINSTH F. Oblitary FORTER, MINSTH F. Oblitary FORTER, MINSTH F. Oblitary FORTER, MINSTH F. Oblitary FORT		7		55	Challengers of the silent denths	
Stresses in orthopodic walking casts (A) PORTER, ROY H. S 77 POTTER, A III. PERSON THE S 72 POTTER, A III. PERSON THE S 72 POTTER, A III. POTTER STRESS		59				
Neclear power plants with high temperature reactors and beliam turbined. (A) — F of the formation and frequency of the seaming process are attended to the seaming process and an advantage of the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming process are also as the seaming process. The seaming and opinions load its process and seaming and opinions load its process. The seaming and opinions load its process. The seaming and opinions and the seaming and opinions of the seaming and opinions load its process. The seaming and opinions and the process is seaming and opinions load its process. The seaming and opinions load its process. The seaming and opinions			Nuclear power componentsF		ic windows under short-term pressure	
Noting Pressure statements in long rerefaction wave tubes (A) for John-Thoman market assembly Powers (A) for John-Thoman market (A) for John-Thoman market (A) for John-Thoman market (A) for John-Thoman market (A) for John-Thoman for the power of the form of the form of the power water/oil bydraulic pumping (A) for power of the form of the form of the power of the power of the form of the power of the power of the form of the power of	······································	77	Nuclear power plants with high tempera-		Departur family of vahicles Design char-	90
Dortunary H. Pressure attenuation in long rearfection wave tabes (A)				64	acteristics of the (A)F	54
Presence attenuation in long rarefaction wave tubes (A)	Powers I II	102		32	Deformation and fracture of steel from	
manul closed Brayton cycle turbine-compressor est for nuclear application, The redesign and simulated test of a (A) Mr Design consistency of USAS BIAIS 1970 (1970			Misleading caption? (C)My			
Throttling capillary for Joule-Thomson measurements, A (A)	wave tubes (A)Je	61		34	pressures, Study of the (A)Mr	68
redesign and simulated test of a (A) Officiary	Throttling capillary for Joule-Thomson	100				
Oblituary Software Materials. See Ma		60	redesign and simulated test of a (A)			
POWDER MATCHALLING. POWDER METALLING. POWDER METALLING. Power, R. C. P		116		68	Distributed loads on long cylinders, Solu-	
POWDER MITALLIBECY POWER R. E. Prescovereity flow patterns in cylindrical annuli (A) — My Prescovereity flow patterns in cylindrical annuli (A) — My Prescovereity flow patterns in cylindrical annuli (A) — My Prescovereity flow patterns in cylindrical annuli (A) — My Prescovereity flow patterns in cylindrical annuli (A) — My Prescovereity flow patterns in cylindrical annuli (A) — My Prescovereity flow patterns in cylindrical annuli (A) — My Power Month (A) — My	POWDER MATERIALS. See MATERIALS,	110		56	tions for (A)Mr	67
Power Merallurency See Metallurency See	POWDER		System planning and optimum load dis-	-	Effect of creep in low-cycle fatigue of	71
Power, R. E. Prese convective flow patterns in cylindrical annuli (A) Power, Ritzpre Story Rothermal memoral annuli (A) Power, Ritzpre Story Rothermal memoral annuli (A) Power, Ritzpre Modern Power Startions Automated coal-handling system for minemuth power station of deposits in modern power station of the power special power special power station of the power special power sp	POWDER METALLURGY. See METALLURGY			61		
Part 5 Receives Marjorie Roy Rothermel memorinal scholarship fund award of ASME Women's Auxiliary F 76 POWEIL EXISTING BURKLEY O'NELLE DAYS BURKLEY O'NELLE CANALY STATIONS O'NELE CANALY STATIONS O'NELE CANALY STATIONS O'NELLE CANALY STATIONS O'NELE CANALY					austenitic and nickel-base alloys (A)	
Power Ralies E Receives Marjorie Roy Rothermel memorial acholarship fund award of ASME Women's Autiliary P Power Momen's Auxiliary P Power Momen's Modera power water/oil hydraulic pumpone of their location relative to the Andrews curve, The (A)	Free convective flow patterns in cylin	1-		24	Por and in the later and the l	71
Receives Marjorie Roy Rethermel memorial scholarship fund award of ASME rial scholarship fund award of ASME POWER_COMEN'S BURNEY POWER_COMEN'S BURNEY Moltary Moltary Moltary Moltary Moltary Closed power water/oil hydraulic pumping (A) — John Company (A) — John		94	POWER STATIONS			43
rial scholarship fund award of ASME Women's Auxiliary P 76 Women's Auxiliary P 77 Powell, Lowin Bunkley Olditary M 106 Olditary M 106 Olditary M 106 Olditary M 107 Power Service of Continuous properties of their location relative to the Andrew curve, The (A)			Automated coal-handling system for mine-		Effect of mean stress and of mean strain	
tion of deposits in modern power station. Super scrubber — 59 Flowers Closed power water/oil hydraulic pumping (A) — N Dependence of power cycles' performance on their location relative to the Andrews curve, The (A) — II — 1 Flower, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve, The (A) — II — 1 Flower of their location relative to the Andrews curve of the II — II	rial scholarship fund award of ASME		New approach to the study and proven	54		771
Oblituary Mr 105 Super studency Mr 105 Super s		76				11
POWER STATIONS, NICLEAR Closed power water/oil hydraulle pumphing (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews caves, the (A) Dependence of power cycles' performance on their location relative to the Andrews cave, the (A) Dependence of power cycles' performance on their location relative to the Andrews cave, the (A) Dependence of power cycles' performance on their location capetities to the Andrews cave, the (A) Dependence of power cycles' performance on their location capetities to the art of the performance on their location capetities the performance on their location capetities the performance on their location capetities and payable declaration (A) Power and the performance on the power capetities capetities on the finite element method (A) Mr Power and the performance of the power capetities performance on the prover capetities and payable declaration (A) Power and the performance of the power capetities to the performance of the prove capetities on the performance of the performance of the prover capetities and payable declaration (A) Power and the performance of the power capetities on the performance of the perfor		105				
Closed power water/oil hydraulic pump- ing (A) No	Power	105		90		68
Ing (A) Nuclear power stations NS B Supposed performance on their location relative to the Andrew curve, The (A)				71	the finite element method (A)Mr	67
Stade nuclear station My 93 of the first continuous pre- like septembers of sower cycles' performance on their location relative to the An- drews curve, The (A)	ing (A)N	60				
dews curve, The (A)	Dependence of power cycles' performance		Stade nuclear stationMy	93	(A)Mr	69
Electric heating Dielectric hosting in desired to the semi-annual electric power survey prover of the semi-annual electric power survey prover of the semi-annual electric power and prospects as a source of continuous precise power, The (A) 11 prover-demand computer 8 state power, The (A) 11 prover-demand computer 8 state provers and prospects are proved from the prover of the semi-annual electric power and prospects are proved from the semination of the semi-annual electric power and proved from the semination of the semination in the state of the semi-annual electric power survey proved from the semination of the se	drews curve, The (A)	67	Power Supply. See Energetics			48
Atomic power — who looks after public actively prover to Assert for Jacker fo	Electric heatingD					
Gas turbine as a source of continuous precise power, The (A)				44	Fracture initiation in low strength steel	**
cise power, The (A)		35		**		99
Power and computer S 5 18 Power in Brazil N 5 8 Power in Brazil N 5 9 Power in Brazil N	cise power, The (A)Jl	61		30		
POWER, NUCLEAR Atomic power — who looks after public safety? Jet 182 Protecting the public (C) — 82; O Nuclear EEL, The — ne woncept in coean freight transportation (A) — Jet Nower, Solar, Solar, See Solar Energy Power, Standby power — Mr Power, Standby power — Mr Power, Standby power — Mr Power Generation — Ap Power Generation — Ap Power Generation — Ap Power Generation (A) — My Potential of the molten eathers attack of the art of flow measure— Power Industry Research (A) — Ap Power Representation (A) — Ap Power generation (A) — Ap Power generation (A) — Ap Power Rouserry Relilion 3 investment — Ferromance of the origine-companied of the molten after record — Ap Prower generation (A) — Ap Power Rouserry Relilion 3 investment — Ferromance of the origine-companied of the molten after record — Ap Prower Record — Ap Power Rouserry Relilion 3 investment — Ferromance of the origine-companied of the molten after record — Ap Power generation (A) — Ap Power Rouserry Relilion 3 investment — Ferromance of the origine-companied of the molten after record — Ap Present state of the art of flow measure— the place of hydro and pumped storage — JI 24 High pressure test chambers: State-of-the-art (A) — Ferromance of the high pressure st form pumped storage — JI 24 High pressure test chambers: State-of-the-art (A) — Power systems; the place of hydro and pumped storage — JI 24 High pressure st transfer at supercritical pressures at forced flow of fluid in the vertical channels. To the question of the A) N Makai undersea test chambers: State-of-the-art (A) — Power systems; the place of hydro and pumped storage — JI 24 High pressure st transfer at supercritical pressures at forced flow of fluid in the vertical channels. To the question of the A) N Makai undersea test channels. To the question of the A) N Makai undersea test channels. To the question of the A) N Makai undersea test channels. To the question of the A) N Makai undersea test channels. To the question of the A) N Makai undersea test channels. To the question of the A) N			MHD: the road ahead (Ed)Ag			63
Power Aystems: the place of hydro and pumped storage	765-ky transmission line D					65
Power systems: the place of hydro and pumped storage		-				
POWER, INCREMENTAL Steam injection, A source of incremental power (A)	Power systems: the place of hydro and					
Steam injection, A source of incremental power (A) J POWER, NUCLEAR Atomic power — who looks after public safety? Je Protecting the public (C) S 82; O 90 Nuclear dealting facility F 69 Nuclear EEL, The N 23 Nuclear EEL, The N 23 Nuclear EEL, The N 23 Nuclear EEL, The N 25 Nuclear EEL, The N 25 Nuclear Devered turbine-generator J 56 Nuclear Devered turbine-generator J 57 POWER, SOLAR. See SOLAR ENERCY POWER, SOLAR. See SOLAR ENERCY POWER, STANDBY Long-lived standby power D 70 POWER DRIVES Outside power D 70 POWER ENGINEERING Modern refuse incineration Ap POWER ENGINEERING AEE Increase Ap POWER ENGINEERING AEE Appointed consultant to U.SGerman Cooperative Program in Natural Resources Ap POWER SCHARAISON N AEC in ocean exploration Ap POWER DRIVES Appointed consultant to U.SGerman Cooperative Program in Natural Resources Ap POWER DRIVES Appointed consultant to U.SGerman Cooperative Program in Natural Resources Ap POWER GRANDED STANDED STAND	pumped storage	24				54
POWER NUCLEAR Atomic power — who looks after public safety? Je 90 Nuclear desalting facility F 69 Nuclear EEL, The me N 2 Nuclear EEL, The me N 3 Named honorary chairman of Canadian Congress of Applied Machanics — 0 Navel Makai undersea test range (A) — F Measured pressure waves in water arising from electrical discharges and detonation of small amounts of chemical explosion of the (A) — Measured pressure waves in water arising from electrical discharges and detonation of small amounts of chemical explosion of Sale Measured pressure waves in water arising from electrical discharges and detonation of Sale Measured pressure waves in water arising from electrical discharges and detonation of Sale Measured pressure waves in water arising from electrical flexible chann			pumped storageJl	24		
Power Atomic power — who looks after public affety?		68				
Atomic power — who looks after public safety?	Power, Nuclear			66		-65
Protecting the public (C) \$82; 0 90 Nuclear desalting facility F 69 Nuclear EEL, The N 23 Nuclear EEL, The new concept in ocean freight transportation (A) Je			Powers, D.			
Nuclear EEL, The Nuclear EEL, The a new concept in ocean freight transportation (A). Je Nuclear EEL, The: a new concept in ocean freight transportation (A). Je Nuclear powered turbine-generator Ji 56 R.I., in divisions of engineering and applied mathematics	Protecting the public (C) S 82. O			64	Manned submersibles, Design and opera-	
Nuclear EEL, The: a new concept in ocean freight transportation (A)Je Nuclear-powered turbine-generatorJi 56 Nuclear-powered turbine-generatorJi 56 Named honorary chairman of Canadian Congress of Applied Mechanics	Nuclear desalting facilityF					55
Nuclear EEL, The: a new concept in ocean freight transportation (A)Je Nuclear-powered turbine-generatorJi Se	Nuclear EEL, TheN	23	Named honorary chairman of Canadian			
Nuclear-powered turbine-generator Ji Power, Solar See Solar Energy Power, Standby Power, Standby Power Drives Outside power		50	Congress of Applied Mechanics0	125		
POWER, SOLAR See SOLAR ENERGY POWER, STANDBY Long-lived standby power	Nuclear-powered turbine-generatorJl				sives, A comparison between (A)Jl	69
PRANDIL'S MIXING LENGTH THEORY Long-lived standby power				98	Miniature pressure transducersAp	38
Extension of Prandtl's mixing length theory, An (A) Theory, And (A) Theory, An (A) Theory, And (A) T						
Outside power Mr Power Engineering Modern refuse incineration Ap Power Generation Ap Power Generation AEC in ocean exploration AEC in ocean exp		40				58
POWER ENGINEERING Modern refuse incineration				76		
Modern refuse incineration Ap Power Generation S Gas turbine packages S MHD power generation: current status Report by MHD subcommittee of ASME energetics division (A) My Potential of the molten salt reactor for power generation (A) Ap Power record Ap Power INDUSTRY Bell of the molten salt reactor for power generation (A) Ap Power record Ap Power in molten salt reactor for power generation (A) Ap Power record Ap Pressure VESSELS AND TECHNOLOGY Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ag Pressure in the bulk of granular solid Treesure in the bulk of granular solid To an impulsive pressure (A) O Nuclear pressure vessels: site assembly Nuclear pressure est facility D Ocean pressure test facility D Ocean simulation laboratory, An (A) F Optimal-suboptimal guidance law for an undersea vessel, An (A) F Pressure vessels site assembly Ocean simulation laboratory, An (A) F Optimal-suboptimal guidance law for an undersea vessel, An (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an approximate method for predicting the (A) My Optimal-suboptimal guidance law for an a						
Power Generation AEC in ocean exploration S Gas turbine packages S MHD power generation: current status Report by MHD subcommittee of ASME energetics division (A) Potential of the molten salt reactor for power generation (A) Power record Ap Power record Ap Power record Ap Power industry Power industry Ap Power industry Power industry Ap Pressure VESSELS AND TECHNOLOGY Ap Power record Ap Ap Pressure VESSELS AND TECHNOLOGY Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ap Pressure VESSELS AND Technology Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ag Ag Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ag Actual popping pressure in the bulk of granular solid Air pressure in the bulk of granular solid Air pressure in the bulk of granular solid Nuclear pressure vessels: site assembly Misleading caption? (C) My 113 Ocean pressure test facility Ocean simulation laboratory, An (A) Preformance of pressure exchangers, An approximate method for predicting the (A) Mreformance of pressure exchangers, An approximate method for predicting the (A) Performance of the orifice-compensated hydrostatic face seal under pressure		27		66		80
AEC in ocean exploration S 90 Gas turbine packages S MHD power generation: current status MHD power generation: current status Report by MHD subcommittee of ASME energetics division (A) My Potential of the molten salt reactor for power generation (A) Ap Power record Ap Power record Ap Power INDUSTRY Billion \$\frac{1}{2}\$ investment F 68 Report by MHD subcommittee of ASME energetics division (A) My Appointed consultant to U.SGerman Cooperative Program in Natural Resources Ag 103 Ocean pressure test facility D 46 Ocean simulation laboratory, An (A) F 56 Operation bottom-fix No Optimal-suboptimal guidance law for an undersea vessel, An (A) F 56 PRESSURE VESSELS AND TECHNOLOGY Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Mr 67 Pressure tatle of the art of flow measure- Ag 67 Pressure test facility D 46 Ocean pressure test facility D 67 Operation bottom-fix No Optimal-suboptimal guidance law for an undersea vessel, An (A) F 56 Operation bottom-fix No Optimal-suboptimal guidance law for an undersea vessel, An (A) F 56 Operation bottom-fix No Optimal-suboptimal guidance law for an undersea vessel, An (A) F 56 Operation bottom-fix No Optimal-suboptimal guidance law for an undersea vessel, An (A) F 56 Operation bottom-fix No Optimal-suboptimal guidance law for an undersea vessel, An (A) F 56 Operation bottom-fix No						
Gas turbine packages S MHD power generation: current status Report by MHD subcommittee of ASME energetics division (A) Special power generation (A) Special powe					Misleading caption? (C)	
Report by MHD subcommittee of ASME energetics division (A)		64	Cooperative Program in Natural Re-			
Report by MHD subcommittee of ASME energetics division (A)		18		103		54
energetics division (A)	Report by MHD subcommittee of ASME					45
PRESSURE VESSELS AND TECHNOLOGY Power record Ap 51 Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ag 67 Pressure state of the art of flow measure- Ap 64 PRESSURE VESSELS AND TECHNOLOGY Performance of pressure exchangers, An approximate method for predicting the (A) Mr 66 Air pressure in the bulk of granular solid hydrostatic face seal under pressure	energetics division (A)My	105	neers Ja 53: addendum (C)	67		18
Power record Ap 51 Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ag 67 Present state of the art of flow measure- Actual popping pressure of a relief valve with a real helical spring under dynamic load (A) Ag 67 Present state of the art of flow measure- Air pressure in the bulk of granular solid hydrostatic face seal under pressure		84	and the second s	0.		58
Power Industry with a real helical spring under dy- namic load (A) Present state of the art of flow measure- with a real helical spring under dy- namic load (A) Ag 67 Performance of the orifice-compensated hydrostatic face seal under pressure						
Billion \$ investmentF 68 namic load (A)Ag 67 Performance of the orifice-compensated Present state of the art of flow measure- Air pressure in the bulk of granular solid hydrostatic face seal under pressure	Power Industry		with a real helical spring under dy-			62
		68	namic load (A)Ag	67	Performance of the orifice-compensated	
		107		44		E4

RESSURE VESSELS AND TECHNOLOGY		Methods and procedures for testing sur-		Plastic tensile instability criteria, On the	
(Continued)		face aerators (A)S	79	(A)My	103
Plane waves due to combined compressive		Nucleate boiling with liquid nitrogen, The		Prevention of chatter vibration in boring	
and shear stresses in a half space (A)		inception of (A)Je	61	operations, Some considerations on (A)	100
0	80	Optimization of a class of river aeration		De	100
Plastic limit pressures of reinforced open-		problems by use of multivariable dis- tributed parameter control theory (A)		Product flatness in strip rolling mills,	101
ings in cylindrical shells, Experimental			79	Principles of self control of (A)My Profile measurement of coated abrasive	101
investigation of the (A)Mr	69	Oxygen dynamics and economic growth		surfaces (A)	100
Post-irradiation fatigue properties of		in the Millstone River (A)	80	Rod-drawing, Optimum die angles and	200
base metals and weldments (A)Ag	71	Phenolic compounds in New Jersey's	00		
Prediction of turbulent boundary layer		streams, Occurrence and distribution of		maximum attainable reductions in (A)	101
growth in adverse pressure gradients,		(A)S	80	Roundness measurement	101
A modified entrainment theory for the		Pool-boiling heat transfer to liquid helium,	00	Part 1 — Linear analysis (A)0	83
(A)0	76	The influence of nuclear radiation on		ships 0 26; (C) (D) (AC) D	67
Pressure attenuation in long rarefaction		(A)Je	61	Roundness as related to other meas-	
wave tubes (A)Je	61	Predicting gas flow rates in vacuum sys-	01	urements (A)Ap	52
Pressure drop in condensation (A)My	99	tems (A)Je	60	Part 2 — The proposed standardN	36
Pressure-exchanger dividers and equal-		Pressure attenuation in long rarefaction	00	Part 3 — Applying the standardD	30
izers, The performance of (A)Mr	62	wave tubes (A)Je	61	Roundness standard in use, The (A)	80
Pressure field in a cavitating flow, An		Process plant application of an aircraft-	44		53
analytical investigation on the (A)O	74	type gas turbine (A)	64	Selection of optimum cutting conditions	00
Pressure measurements at surface and		Propane thermodynamic property equa-		through digital computation, On the	
throat of a pipe orifice, Some (A)Je	62	tions (A)Je	60	(A)My	102
Pressure - suppression/gravity - flooding		Small cryogenic regenerator performance		Some steady-state plastic deformation	
containment system (A)Ap	63	(A)Je	61	processes, A new upper-bound method	
Pressure tanks for deep sea simulation		Specification and selection of mechanical		for analysis of (A)My	101
facilities, The use and design of (A)		aeration equipment (A)S	80	Technical innovation—key to manufactur-	
······································	54	Ten-year process gas turbine experience		ing success	19
Pressure transients in hydraulic pipe-		(A)Jl	67	Thermal expansion of the workpiece dur-	
lines (A)F	61	Value of water in industry, The (A)S	79	ing turning (A)My	102
Pressures on sile walls (A)Ja	44	Water resource development of Mullica		Tool wear, Analysis of	
Shakedown as a guide to the design of		River basin, New Jersey (A)S	80	Part 1: Theoretical models of flank	
pressure vessels (A)Mr	69	PRODUCT DEVELOPMENT		wear (A)My	101
Six-thousand-ton pressAg	51		52	Tools and engineering materials with hard,	
16:1 pressure ratio gas turbine recupera-		Mind into matterMr	02	wear-resistant infusions (A)My	103
tor (A)	69	New devices for managing the product de-	80	Transient drilling temperature responses,	
Southwest Research Institute underwater		velopment process (A)Ap	56	Building a mathematical model to pre-	
engineering laboratory, The (A)F	56	PRODUCT SELECTION		diet (A)My	102
Stagnation pressure losses of compres-		Marketing for fully optimized product		Wear on cemented carbide cutting tools,	
sible fluids through abrupt area changes		selection, A graphical aid for (A)Ap	57	A study of (A)My	102
neglecting friction at the walls (A)		PRODUCTION ENGINEERING		What sound can be expected from a worn	
Mr	65	Automatic machine for percussive welding		tool? (A)My	100
Storage facilities associated with an am-		of contacts on miniature wire spring			
monia pipeline (A)N	61		102	PRODUCTS	04
Strain effect on EMF of silver iodide		relay single wire combs, An (A)My	102	Standards dilemma, TheJe	04
cells (A)Je	68	Axisymmetric extrusion with experiment,		PROFESSIONAL ENGINEERS IN PRIVATE	
Submarine rescue vesselJe	44	Comparison of two complete solutions in		PRACTICE	
3000-psi hydrostatic facility, A (for static	-	an (A)	102	Presents 2nd annual award to Richard	
and dynamic pressure tests) (A)F	56	Barreling as an example of free deforma-		H. Tatlow, III	126
Transients in pneumatic transmission	7	tion in plastic working, A study of		Special committee to study merger	
lines subjected to large pressure		(A)My	100	special committee to study merger	
changes (A)0	79	Chatter vibrations, The modulation of (A)		with Consulting Engineers Council and American Institute of Consulting Engi-	
Unsteady pressure differential in a capil-		Му	102		126
lary-tube gas viscosimeter, Approxi-		Computerized determination and analysis		neers headed by John K. M. PrykeO	120
mate correction for (A)0	83	of cost and production rates for ma-		Profita, Gerald A.	
PRICE, H. L.		chining operations:		Appointed general manager, manufactur-	
Effect of gamma radiation in vacuum on		Part 2 — Milling, drilling, reaming, and		ing for power generation division of	
the tensile properties of polymer films		tapping (A)My	103	Babcock & Wilcox Co., New York, N. Y.	
(A)Ap	65	Computerized engine productionO	61	0	125
	00	Coordinating engineering, manufacturing,		PROGRAM EVALUATION AND REVIEW	
Primrose, E. J. F.		and marketing of new products with			
Spatial motion 1-point paths of mecha-		simplified PERT/CPM (A)S	68	TECHNIQUE	
nisms with four or fewer links (A)Ja	45	Cup drawing from an anisotropic blank		Coordinating engineering, manufacturing,	
PRITZLAFF, J. A.		(A)My	100	and marketing of new products with	
Deepstar family of vehicles, Design char-		Designing optimum dampers against self-	200	simplified PERT/CPM (A)S	68
acteristics of the (A)F	54		100	PROPANE	
	04	excited chatter (A)My	102	Propane thermodynamics property equa-	
Probes		Designing wire parts for high production		tions (A)Je	60
Subterranean leak locatorJe	45	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	25	Superior propane torch0	65
PROBLEM SOLVING		Engineering parameters for new products,			
Home-based computers0	58	Developing (A)S	67	PROPULSION	
PROCEEDINGS. See LITERATURE	30	Eutectic alloy of Pb and Sn, Some extru-		Commercial aircraft propulsion systems,	
		sion studies of the (A)My	101	Design requirements and objectives for	
Process Industries		Grinding process instability (A)My	100	(A)J	
Contribution of photosynthetic reaeration			100	Fluidic proportional thruster system for	
to total reaeration of the Passaic River		High speed production controls and stand-	40	sounding rocket applications, A (A)	
(A)S	80	ards (A)S	70	Мг	64
Cost of industrial and municipal waste		Humble's King Ranch oil production sys-		Forced and self-excited oscillations in pro-	
treatment in the Maumee River basin		tems (A)N	60	pellant lines (A)0	75
(A)S	79	Investigation of face-milling temperatures		Gas turbine propulsion for LNG tankers	
Disposal of metal bearing wastes-treat-		by simulation techniques (A)My	102	(A)	
ment alone is not enough (A)Je	60	Kinematics of electrochemical machining,		Handy maneuvers	
Evaluating computer control in processes		On the (A)My	103	Northwest Hydrofoil Line's hydrofoil ship Victoria gas turbine main propulsion	
(A)Ag	73	Management and control of product en-			
Field testing of aerators in waste treat-		gineering changes for aircraft (A)S	68	Propulsion gas turbine experience on the	
ment plants (A)S	80			Coast Guard Hamilton class high en-	
High temperature wastewater treatment		Management and control of product engi-	00	durance cutters (A)J	
	en	neering changes for automobiles (A)S	68	Propulsion systems for DDH-280 class gas	. 02
process, A (A)Je	60	Management and control of product engi-		turbine destroyers, Description of (A)	
How oil is meeting needs of the process	40	neering changes—data processing equip-		turbine destroyers, Description of (A)	
industries (A)Je	69	ment (A)S	68	Self-propelled power wheelA	
Incipient and nucleate boiling of liquid		Mass producing self-acting gas bearings		Simulated launch of the "short stack"	. 40
hydrogen (A)Je	61	for gyrosS	32		
Interaction of compressor-expander turbo-		One-dimensional equilibrium cutting gap		Transit propulsion unit suspension, A new	
machinery in chemical processes (A)		in electrochemical machining, Predic-		-proved on Northeast Corridor high	
Je	61	tion of the (A)My	103	speed test cars (A)A	
Meteorological and hydrological drought in		Organizing and structuring the functions		Turbomechanical transmissions for pro	
Raritan River basin in New Jersey		in the smaller engineering department		pulsion steering of track-laying vehicle	
(A)8	79	(A)S	73	(A)J	

PROPULSION (Continued)		PUMPHREY, PATRICK R.		Quirk, A.	
Vibration and noise characteristics of an		ObituaryMy	154	Effects of material properties and com-	
aircraft-type gas turbine used in a		PUMPING STATIONS		ponent geometry on unstable propaga-	60
marine propulsion system (A)Jl	60	Optimizing the performance of large ball		OURK, JOHN H.	-
PROTECTION		control valves for motor-driven pump		Obituary	124
Proprietary plant protection systems (A)	73	Power systems: the place of hydro and	64	Ouo, Phillip C.	
PROUTY, FRANK H.	10	pumped storage	24	Becomes deputy director of power & nu-	
Receives 1969 distinguished engineering		PUMPS AND PUMPING	-	clear engineering department at A.M.	
alumni award from College of Engi-		Calculating the head developed by an im-		Kinney, Inc., Cincinnati, OhioAg	104
neering at University of Colorado, Boul-		peller with a finite number of blades,		and beginners out to analyze of the fall	
der, Colo.	114	Approximate method for (A)0	72		
PROVENZALE, G. E.		Cavitation research on a centrifugal	m1_	Charles of the Contract of the	
Effects of transpiration cooling on tur-		pump (A)	72	A Comment of the Comm	
bine stator blade aerodynamics, Experi-		Closed power water/oil hydraulic pump- ing (A)	60	THE CANADA STREET	
mental investigation of the (A)Jl PRUDEN, SAMUEL H.	64	Compressor or pump stage for fluctuating	00	RABBITT, JAMES A.	
		lift, The quasi-steady design of a (A)		Obituary	128
Named chief engineer of machine spindle div., Heli-Coil Corp., Farmington, Conn.		Je	64	RADAR	
0	125	Development of a quintuplex mobile ser-		Automatic safetyJe	57
PRUITT, W. W.		vice pump (A)N	62	Mini-radar toolMy	92
Centrally located controls for an industrial		Effect of compressibility on the per-	04	RADEMACHER, ROBERT C.	
power plant (A)D	59	formance of a screw pump (A)Mr Heartening prospectsN	45	ObituaryP	89
PRUST, HERMAN W., JR.		Hermetically sealed pumpD	45	RADIATION	
Determining the performance of certain		Improvement of pump performance by	-	Effect of gamma radiation in vacuum on	
turbine stator blades from total pres-		impeller eye throttling (A)0	72	the tensile properties of polymer films	
sure surveys, Some measurement prob-		Investigations on piping components,		(A)Ap	65
lems encountered when (A)Jl	68	valves, and pumps to provide informa-		Fracture toughness of irradiated and un- irradiated heavy section pressure ves-	
PRYKE, JOHN K. M.		tion for code writing bodies (A)My	107	sel material (A)Je	63
Named chairman of special committee to study merging of Consulting Engineers		Jet pump cavitation parameter based on	64	Nongray radiative transport in a cylin-	
Council, American Institute of Consult-		NPSH, A (A)Mr Long-lived pump	64	drical medium (A)N	71
ing Engineers, and Professional Engi-		Low-area-ratio water jet pumps, An		Pool-boiling heat transfer to liquid	
neers in Private Practice	126	experimental investigation of several		helium, The influence of nuclear radia-	
PSAROUTHAKIS, J.		(A)0	74	tion on (A)	61
Strain effect on emf of silver iodide cells		New look at plunger pump suction re-		Post-irradiation fatigue properties of base	71
(A)Je	68	quirements, A (A)N	63	metals and weldments (A)Ag Radiation heat transfer for annular fins	
Pu, S. L.		Optimal design of staged jet-pump sys-	104	of trapezoidal profile (A)N	68
Cavitation at the ends of an elliptic in-		tems (A)My Optimum design of water jet pumps (A)	104	Radiative energy transfer in an absorb-	
clusion inside a plate under tension (A)		Je	64	ing and emitting media, An approxi-	
Je	66	Peristaltic transport (A)Je	67	mate method for multidimensional prob-	4
PUBLIC INTEREST		Pipeline pumps for anhydrous ammonia		lems of (A)N	71
ASME safety codes: response to public		(A)N	64	Reject heat and radiation from implanted	
needsMy	109	Pump turbines for New YorkAg	57	radioisotope sources, Studies of (A)	105
Protecting the public (C)Ag Atomic power — who looks after public	76	Representation of pump-turbine char-		Temperature transition from linear elas-	
safety?Je	38	acteristics (A)	76	tic to gross strain fracture conditions,	
Protecting the public (C)S 82; O	90	Reversible pump-turbine, Index method for pumping operation of (A)F	61	Dynamic tear test definition of the (A)	
Coming: a new breed of engineer (Ed)	00	Single acting triplex pumps for mud serv-	01	Je	63
D	13	ice (A)N	63	RADIOISOTOPES	
Conflicts in engineers' responsibilities-		Standard for the design of pumps for		Nuclear control instrumentsAg	57
personal decision (A)My	107	water-cooled reactor systems (A)My	106	RADIOMETERS	
Conflicts in engineers' responsibilities:		Turbine-speed fuel pump for small gas-		Thermal profile of MarsAg	50
public issues oriented information by		turbine engines, A (A)Л	66	RADZIMOVSKY, E. I.	
independent groups of experts (A)My Keeping technology human (Ed)O	107 25	Punches		Effects of axial vibrations on frictional	
Looking ahead in nuclear powerAg	30	High-speed punch press0	71	losses in gear systems (A)Ag	
New breed, A: the engineer-managerD	14	PURDUE UNIVERSITY		Predicting the oil film thickness in hydro-	
Engineer-manager in the nuclear age,		Bestows its first M.S. degree in indus-		dynamically lubricated gears (A)Ap	
The (A)Ap	57	trial operations to Leonard C. Meyer	100	RAGHUNATHAN, S.	
Prometheus unboundN	28	Purdue aslo involvedD	126 80	Conical diffuser/exit duct combinations,	
Public contract standards	91	Purdy, K. R.	80	Theory and performance of (A)Mr	65
Responsibilities of engineers (A)My Technology and society	107	Intense acoustic fields and viscous fluid		RAILROADS	
Part 1: Public interest, TheAp	24	flows, On the interaction of (A)F	62	Advanced passenger trainN	59
Public interest — first priority in	-	Purification Facilities	-	Dynamic loads caused by vehicle-track	
engineering design?My	107	Helium facilityJa	55	interaction, A computer study of (A)	
Part 2: Social responsibilities, TheMy	81	PURINTON, FORREST G.		Ag	
Social effects of technology (C)N	79	Obituary	128	Dynamic measurement of absolute track	
Technology and society (C)Jl	72	PYRITE	1	Properties (A)Ag High-speed trains	
PUBLIC SERVICE ELECTRIC AND GAS CO.		Removal of pyrite from coal, The (A)		Nuclear EEL, TheN	
"Second sun, The" (former ferryboat		P	60	Nuclear EEL, The: a new concept in	
launches new career as floating nu-		Pyrotechnic Techniques		ocean freight transportation (A)Je	58
clear information center)S	92	Pyrotechnic-actuated cable releaseJe	48	Progress in railway mechanical engineer-	
PUBLICATIONS. See LITERATURE				ing, 1967-1968 (A)F	
Puckering				Steam versus diesel (C)Mr	
Seam puckering as a mechanical insta-				Track conditions fastAp Track quality index, Development and use	
bility phenomenon (A)S	76			of a (A)	
PUERTO RICO		Transaction (Secretary to Selection and Selection Selection)		RAINISH, MORTON M.	
Nuclear study for P. R	102	Quarles, Frank W.		ObituaryN	111
PULSATION		Quarles, Frank W.	116	RAJAGOPALAN, K. S.	
Dispersive pulse propagation parallel to		QUARMBY, A.	***		
the interfaces of a laminated composite	-	Turbulent heat transfer in concentric an-		Performance of curved entrance 3 in x ½ in. venturimeters (A)Mr	
(A)N	75	nuli with constant wall temperatures		RAMACHANDRAN, A.	94
Experiments on dispersive pulse propaga-		(A)N	72	Effect of vibration on heat transfer from	
tion in laminated composites and com-		Quice, R. J.		spheres (A)	
parison with theory (A)N Induced flow in a pulsejet ejector with	76	Superalloy development for aircraft gas		Free convection heat transfer from verti-	
experimental verification, A mathemati-		turbines (A)Jl	62	cal isothermal cylinders with trans-	
cal model for the prediction of the		Quindry, T. L.		verse curvature effect (A)N	
(A)Mr	62	Transmissibility measurements for the		RAMAPRIAN, B. R.	
Pulsating flows in infinite and finite conl-		determination of structural damping		Prediction of turbulent boundary layer	
cal nozzles, Analysis of (A)0	82	(A)Ag	64	growth in adverse pressure gradients	,
Pulsation effects on reciprocating com-		Quinn, W. J.	-	A modified entrainment theory for the	
pressors (A)N	64	Use of light in design — infrared (A)S	67	(A)(, 76

RAMKRISHNAN, C. V.		RECUPERATORS		RELAYS	
Elastic waves in a hollow sphere, Three-		16:1 pressure ratio gas turbine recupera-		Automatic machine for percussive weld-	
dimensional and shell-theory analysis		tor (A)Jl	69	ing of contacts on miniature wire spring relay single wire combs, An (A)	
of		REDDI, M. M.		spring relay single wire comos, All (A)	102
Part 1: Analytical foundation (A)N Part 2: Numerical results (A)N	74	Finite element solution of the steady-			
RAMSDEN, CHARLES D.	1.0	state compressible lubrication problem (A)	64	RELEASE Pyrotechnic-actuated cable releaseJe	48
Elected ASME FellowAg	106	Incompressible lubrication problem, Fi-		_ 10004000000000000000000000000000000000	
RANGA RAJU, K. G.	100	nite-element solution of the (A)0	86	Magnetic perturbation inspection to im-	
Resistance of an inclined plate placed		REDDING, A. H.		prove reliability of high strength steel	
on a plane boundary in two-dimensional		Protecting the public (C)S	84	components (A)S	68
flow (A)0	73	REDDY, D. M.		Reliability in computer programsF	24
RAO, N. S. LAKSHMANA		Product flatness in strip rolling mills,		Bafflegab? (C)Ap	58
Performance of curved entrance 3 in.		Principles of self control of (A)My	101	Systems engineering: the role of reli-	10
x 1/2 in. venturimeters (A)Mr	64	REED, G. E.		abilityJa	10
RAREFACTION		Power transfer device for mechanical		RENKEN, RALPH E.	
Pressure attenuation in long rarefaction		hearts, A (A)Ap	55	Practical maintenance planning and per-	74
wave tubes (A)Je	61	REED, MAURICE J.		formance evaluation (A)Ag	74
RATCHETING		0011111	102	REOCH, ALBERT G.	
Structural growth induced by thermal	71	REED, R. E.			124
cycling (A)Mr Thermal ratchet mechanism, The (A)	71	Flow and filtration characteristics of wire	104	RESCUE VESSEL, DEEP SUBMERGENCE. See	
Mr	72	cloth (A)My	104	VEHICLES, UNDERWATER	
RAUSCH, P. J.		REED, R. R. Nondimensional plots in nonlinear vibra-		n and the same of	
Shock propagation in a strain-hardening		tions (A)Mr	70	RESEARCH Aquatic researchN	84
material (A)0	82	REESE, C. D.		Computing research center	57
RAUSCH, W.		Ductile creep rupture of shells with strain		Drexel establishes a multidisciplinary	٠.
Movement of fuel elements in the core		hardening and time-dependent loading		wave research center	84
of a pebble bed reactor, Investigations		(A)Mr	71	EEI expands researchAg	81
on the (A)Ja	42	REFINING		Fellowships for research	93
RAVEN, FRANCIS H.		Coming: super-refined steels and alloys		Mind into matterMr	52
Receives national award from Western		Ag	44	Mini-radar toolMy	92
Electric Fund for excellence in instruc-		REFRACTORY PRODUCTION		Moral considerations of the engineering	
tion of engineering students	125	Giant squeezeJl	47	teacher involved in government re-	71
RAY, J. D.		REFRIGERATION		search (A) S Pressure signal generator for fluidic re-	•••
Nonlinear vibrations of a beam with		Small cryogenic regenerator performance		search (A)	79
pinned ends (A)Ag	66	(A)Je	61	Research fellowship for fluids0	104
RAYLE, ROY E.	100	REFUSE PROCESSING		Sublimnos-IMy	122
Elected ASME Fellow	122	Garbage block, The: a new building mate-		Undergraduate engineering laboratory in-	
RAYMOND, DOUGLAS W.		rialD	19	structionMr	36
Going in a circle (C)F	63	Heat value of refuse (C)Ap	68 27	Engineering method (C)	73
REA, W. J.		Modern refuse incinerationAp Recent experience with ash deposits in	21	USC range at Santa Catalina Island (A)	69
Tow-type conveyors with accumulator at-		refuse-fired boilers (A)My	105		00
tachments (mechanisms which bring moving materials to a stop, softly)		REGENERATORS	200	RESEK, J. VERNE	
(A)D	57	Regenerators for industrial gas turbines,		Retires as president of Industrial Com-	
REACTORS		Design and experience with (A)Ag	68	bustion Inc., Milwaukee, Wis., after 11 years as executive with the firm and	
AEC closes project	102	Small cryogenic regenerator performance		a 45-year career in design and engi-	
AEC power reactor programJa		(A)Je	61	neeringD	95
Field assembly and erection of heavy-wall		REGISTER, CHARLES L.		RESISTANCE	
hydrocracking reactors (A)Mr	68	Named vice-president, Data Systems &		Thermal contact resistance of aniso-	
"Incore" thermionic reactorJa	40	Special Programs Divisions, Sanders		tropic materials (A)N	72
Looking ahead in nuclear powerAg	30	Associates, Inc., Nashua, N.HAp	97	RESONANCE	
Movement of fuel elements in the core of a pebble bed reactor, Investigation		REGULATORS		Two types of resonance in intake tuning,	
on the (A)Ja		Performance of freight car brake regula-		The (A)	75
NAPCA joins NASA in researchAg	81	tors during static and dynamic condi- tions (A)F	53	Resources	
Stainless steel primary piping for the		REICHEL, CURT R.	90	Looking ahead in nuclear powerAg	30
high flux beam reactor (A)F		ObituaryN	111	Looking anead in nuclear power	
Standard for the design of pumps for		REID, C.	***	RESPONSES	
water-cooled reactor systems (A)My		Response of axial flow compressors to		Dynamic response of cylindrical and coni-	
Temperatures in molten reactor fuel tube bundles, Analysis of (A)Je		intake flow distortion, The (A)Jl	62	cal panels, The (A)0	82
REACTORS, NUCLEAR	62	REID. WILLIAM T.	-	Exact transient response of an elastic half space loaded over a rectangular region	
	40	Capture of sulfur dioxide by limestone		of its surface (A)N	
BGRR on standby	42	and dolomite, Basic factors in the (A)		Mean-square response of simple mechan-	
metric studies on liquid-metal fast-		D	58	ical systems to nonstationary random	1
breeder reactors, A (A)Ap	64	Recipient of 1969 Melchett medal pre-		excitation (A)0	
Influence of inlet geometry on flow in		sented annually by Institute of Fuel	***	Nonlinear response of a cylindrical shell	- 00
the entrance region of a nuclear re-		(British)N	107	to an impulsive pressure (A)0	80
actor rod bundle (A)My	97	REILLY, R. E.		RESPONSIBILITY	
Lunar-based A-power	84	Underwater human performance measure-		Atomic power - who looks after public	
On the use of (A)AI	65	ment system, An (A)Je	99	safety?Je	38
TAMPA — a computer program for the	00	REINHARDT, ALBRECHT E.		Protecting the public (C)	90
analysis of reactor fuel and clad (A)		Appointed chief engineer for pneumatics, Hamilton Standard division of United		Conflicts in engineers' responsibilities	
***************************************	65	Aircraft Corp., Windsor Locks, Conn.		personal decision (A)	
Thermal response of a reactor fuel as		Ar		public issues oriented information by	
sembly cooled by flooding under loss		REINHART, T. J., JR.		independent groups of experts (A)My	
of-normal-coolant conditions (A)A	62	Corrosion resistance of reinforced plas-		NSPE liability policyJe	
REACTORS, WATER	123	tics (A)S		Responsibilities of engineers (A)My	
Nuclear center	100	REINSCH, HARRY O.	7,60	Technology and society	
READ, J. M.	, 100	Vice-president, Bechtel Corp., San Fran-	Th/I	Part 1: Public interest, TheAp	
Chemical plant maintenance management		cisco, Calif., appointed deputy manager		Public interest — first priority in	
A concept for (A)		of firm's power and industrial division		engineering design? (A)M) Part 2: Social responsibilities, TheMy	
RECLAMATION	65	······································	107	Social effects of technology (C)N	
		REISMAN, A.		Technology and society (C)J	
STAKRAKE—new concept in bulk mate rials handling (A)	57	Computer-aided systems approach to per-			1
RECREATION	91	sonnel administration, On a (A)Ap	57	RESTRAINT SYSTEMS	
		Unification of engineering economy: the		KSC: Spaceport for the moon Part 5: Loosening the terrestrial bonds	100
Beauty of it, The (Ed) Underground line, The (C)M	. 75	need and a suggested approach (A)		rart 5: Loosening the terrestrial bonds	
	r 75	D	56	Moon mission completed — and recorded	
RECRUITMENT		REISSNER, ERIC		(Ed)	
Recruitment heaviest in history of Poly technic Institute of Brooklyn	- 76	Finite symmetrical deflections of thir	- 00	RETIRED ENGINEERS, See ENGINEERS, RET	

REVOLUTION		RISERS		Temperature structure and heat transfer	
Finite symmetrical deflections of thin	00	Developments in marine drilling riser	-	characteristics of an electrically heated model of a seven-rod cluster fuel ele-	
shells of revolution, On (A)O REYNOLDS, DAVID	82	RITCHIE, FRED P.	62	ment, The (A)My	95
More on "bafflegab" (C)Je	72	Named vice-president of New England		3000-lb coils from new rod millJe	53
REYNOLDS, H. C.		Mill Division, Federal Paper Board Co.,		Turbulent velocity distribution in a rod bundle (A)My	97
Thermal entry for low Reynolds number		Inc., Montvale, N.J.	114	ROE, RALPH C.	
turbulent flow (A)	62	ROBE, T. R.		Recipient of 1969 George Westinghouse	
for fully developed, turbulent, low Rey-		Transients in pneumatic transmission lines subjected to large pressure		gold medalN	107
nolds number pipe flow (A)Mr	62	changes (A)0	79	ROEDEL, JOHN P.	110
REYNOLDS, HERBERT B.		ROBERTS, A. W.		Obituary	116
Obituary	116	Gravity flow of noncohesive granular		ObituaryD	100
Failure behavior in axially flawed ASTM		materials through discharge chutes, An investigation of the (A)Ja	43	ROESENER, WALTER J.	-3
A106B pipes (A)D	59	ROBERTS, ROBERT E.	11111	Obituary0	128
REYNOLDS NUMBERS		ASME vice-president, Region IN	103	ROFFMAN, GARY L.	
Flow around a sphere at high Reynolds		ROBERTS, S. B.		Effects of sound on jets and flueric de-	
numbers, Experiments on the (A)N	76	Head trauma — a parametric dynamic	79	vices, A discussion of the (A)Ag	28
RHEOLOGY		study (A)	13	ROGERS, JACK W.	
Oscillating rectilinear fluid flow genera- tor (A)	67	ObituaryD	100	Appointed general manager of central engineering, Peter Eckrich and Sons,	
RHODES, ALLEN F.	61	ROBERTSON, ROY C.		Inc., Fort Wayne, IndMy	151
Appointed to U.S. Department of Trans-		"Metrification" (C)Ag	77	ROGERS, SAMUEL E.	
portation's Technical Pipeline Safety		ROBERTSON, S. R.		Promoted to assistant vice-president of	
Standards Committee to help frame		Response of a viscoelastic annulus to a step transverse load (A)D	61	Joh Oster Manufacturing Co., Mil-	109
safety standards for transporting gas by pipelineAg	109	ROBIE, THEORDORE M.	••	waukee, WisAg	103
89th president of ASME (1970-1971)N	102	Elected ASME FellowAp	100	ROGERS, WAYNE C. Supervisor of all fuel-burning research,	
RICE, HAROLD W.	-0-	ROBINSON, E. B.		Riley Stoker Corp., Worcester, Mass.	
Promoted to general manager of Robert-		Direct contact heat transferring fluidized	-	Je	100
shaw Controls Co.'s eastern research		bed boiler, Status of the (A)F ROBINSON, R. D.	60	ROHLEDER, G. V.	
center, King of Prussia, PaS	113	Energy transmission and energy conver-		Pipelining anhydrous ammonia (A)N	61
RICE, IVAN GLENN		sion system for artificial heart assist		ROHLIK, HAROLD E.	
Joins De Laval Turbine, Inc., at its Del- tex division in Houston, Tex., as man-		devices, An (A)My	106	Instrumentation used to define perform- ance of small size, low power gas tur-	
ager of application engineeringS	114	ROBINSON, THOMAS B.		bines (A)Ag	
RICHARDS, C. L.		Elected 1969-1970 president-elect of Con- sulting Engineers Council of the United		ROHMANN, CHARLES P.	
Joins Combustion Engineering, Inc.,		States, Washington, D. CAg 103; S	114	Elected a director and president of	
Windsor, Conn., as director of product	00	Robots		Fischer & Porter Co., Warminster, Pa.	
Performance	90	Robot-operated coating gunJe	50	P 7 A	114
Re: metric systems (C)Ap	87	ROCHINO, A.		ROHRIG, I. A. Receives certificate of appreciation for	
RICHARDSON, H. P.	01	Incompressible turbulent swirling flow in stationary ducts, Analytical investiga-		work on ASME Boiler and Pressure	
Unsteady pressure differential in a capil-		tions of (A)O		Vessel CommitteeN	
lary - tube gas viscosimeter, Approx-		ROCKET TECHNOLOGY		ROHSENOW, W. M.	
imate correction for (A)0	83	Jet slideMy	88	Correlation of pool-boiling data, A new-	
RICKER, T. W.		ROCKETS. See also LAUNCH, MOBILE CONC	CEPT;	including the effect of heating surface	
Velocity fields in eccentric annuli, On the	-	NASA; RESTRAINT SYSTEMS		characteristics (A)	
Province H. C.	62	Fluidic proportional thruster system for		mechanism of and stability criterion for	
RICKOVER, H. G. Protecting the public (C)Ag	70	sounding rocket applications, A (A)	64	(A)My	96
RIEGEL, P. S.	76	Midget rocketD		ROLAMITE	
Breathing apparatus for diving to great		Multicomponent force transducer for use		Music in a simple key	
depths, Design of (A)S	69	on rocket sleds (A)Ag	61	Rolamite "tilt" switchS	00
Ries, J. P.		Simulated launch of the "short stack"		ROLFE, S. T. Effect of state-of-stress and yield crite-	
Motion of a flat-plate pendulum in a		6800-mph sledAg		rion on the Bauschinger effect (A)	
viscous fluid, The (A)Ag	61	Rocks		Mr	
RIETMANN, NORMAN G.		Brittle rock failure under triaxial stress		ROLLER, M. L.	
Manager, Forging Hammer Engineering,		(A)Je	68	Precursor cerebral circulation models (A)	
Erie Foundry Co., Erie, Pa., winner in Gray and Ductile Iron Founders' So-		ROCKWELL, WILLARD F.			77
ciety 15th annual design contestF	85	Receives ASME 50-year pinD	96	ROLLING Hybrid boost bearing, The — a method	
RIGIDITY		RODABAUGH, E. C.		of obtaining long life in rolling con-	
Comparison of flexible- and firm-founda-		Investigations on piping components, valves, and pumps to provide informa-		tact bearing applications (A)D	
tion rotor critical-speed analyses (A)		tion for code writing bodies (A)My		Stress concentration around a furrow	
Rigid-body rotor dynamics: dynamic un-	01	RODDY, FRED M.		shaped surface defect in rolling con- tact, An analytical study of the (A)D	
balance and lubricant temperature		ObituaryJ	124	ROLLING ELEMENT	02
changes (A)D	65	RODGERS, JAMES C.		Rolling element fatigue and macroresid-	
RIMROTT, U. A.		Joins API Industries, Inc., Chicago, Ill.,		ual stress (A)0	
Rolling bearing endurance testers, De- sign of (A)S	74	as vice-president — marketingS	114	ROLLINS, JACK D.	
Rings	74	Rodi, W.		Appointed research staff member at	
Circular ring of arbitrary section, Three-		Laminarization of turbulent flow in a cir- cular porous tube with uniform mass		Union Carbide's Oak Ridge (Tenn.)	
dimensional deformation and buckling	The Later	injection through the tube wall (A)N		National Laboratory0	120
of a (A)	69	Rops		RONA, T. P. Canless reactor fuel assemblies, A struc-	
Elastic-plastic stress distribution in a compressed ring (A)	72	Calculation of rod bundle pressure loss		tural analysis for (A)Ap	
Elastic ring, A mixed problem for an		(A)		Roofs	
(A)Je	66	finite length for an axially symmetric		Maintenance-free roofS	5 56
Fracture of notched polymethyl metha- crylate rings loaded in diametral com-		end face loading, The (A)0	80	Rose, R. K.	
pression, Some observations on (A)D	59	Heat transfer to mercury flowing in line	MC.	Fluidic proportional thruster system for	
Stress distribution and spring rates in a		through an unbaffled rod bundle: ex- perimental study of the effect of rod		sounding rocket applications, A (A)	
cantilever cone ring combination, The		displacement on rod-average heat		Rosenhan, A. K.	- 04
Techniques for measurement of winding	69	transfer coefficients (A)Je	61	Appointed first staff engineer, Inter-	
tension in ring twisting (A)		Influence of inlet geometry on flow in the entrance region of a nuclear re-		national Association of Fire Chiefs,	,
RINK, R. E.		actor rod bundle (A)M3		New York, N.YN	108
Control with a multiplicative mode (A)		Parallel-flow-induced vibration of a cylin-	Car.	Ross, R. D. (author)	STATE OF
··········	61	drical rod (A)Aj	64	"Industrial Waste Disposal" (BR)J	73

Rossettos, J. N.		Routers		RUZICKA, JEROME E.	
Dynamic response of cylindrical and coni-	00	New pin routerJa	41	Electrohydraulic vibration isolation sys- tems, Theoretical and experimental in-	
Cal panels, The (A)O	82	Row, George E.		vestigation of (A)Ag	64
Vibration in high-speed rotating ma-		"Metrification" (C)Ag	77		
chinery, Experimental investigation of		ROWAN, ROBERT L.			
(A)Ag	66	ObituaryD	100	2	
ROTATION		Rowe, HENRY A.		the section will be a first particle, which	
Measurement of rotating machinery		"Professionalism" (C)	93	SABATIUK, A.	
vibration factors affecting instrument accuracy (A)My	103	ROWLEY, LOUIS N.	10	Supersonic axial compressor boost stages for small gas turbines, The develop-	
Rotating heat pipe, The - a wickless,	200	EJC, New directions forJa	18	ment of (A)	66
hollow shaft for transferring high heat		ROY, W. HARMON Receives Eckman award at Joint Auto-		SABOUNI, BAHIDJ B.	
fluxes (A)	88	matic Control Conference0	114	Named area governor of California Dis-	
Roth, E. S. Roundness mesurement: part 1 — im-		Royce, D. F.		trict Exchange ClubsF	85
portance and interrelationships (C)		ObituaryP	89	SACHS, R. M. Propulsion systems for DDH-280 class	
(D)Ď	67	RUBBER AND PLASTICS		gas turbine destroyers, Description of	
ROTHBART, HAROLD A.		Bonded elastic mounts under combined		(A)J	62
Elected ASME FellowJa	100	loading of shear and normal forces		SACKMAN, J. L.	
ROTHFUSS, N.		Fifest of sample radiation in vacuum	65	Longitudinal impact on a hollow cone	75
High-speed shafting design — its use in a helicopter application (A)S	73	Effect of gamma radiation in vacuum on the tensile properties of polymer		(A)N	10
ROTHMAN, E. A.		films (A)Ap	65	SADOWSKY, M. A. Cavitation at the ends of an elliptic in-	
Material characterization results for a		Giant presses for curing giant tires (A)		clusion inside a plate under tension	
selected graphite fiber/epoxy compos-		See-through rubberAp	65 46	(A)Je	66
ite (A)Ag	68	Tensile failure of viscoelastic materials	-	SAFETY	
ROTHSTEIN, A. J. Impact of effectiveness concepts on the		under multiaxial loading, Description		ASME members appointed to U.S. De-	
project manager (A)Ap	56	of (A)Ap	66	partment of Transportation's Technical Pipeline Safety Standards Committee	
Котонро , Р.		Tensile fracture of parallel fiber compos- ites, A statistical model for the (A)		Ag	103
Buckling of an ellipsoid due to internal		Ap	66	ASME safety codes: response to public	100
pressure (A)Mr	68	"Trans-Ject" combination bondAg	45	Protecting the public (C)Ag	109
Rotors		Ultrasonic inspection methods for rubber		Automatic safetyJe	57
Assessing unbalance effects in a small		bond condition, A status report on (A)	65	Bridge inspectionAp	75
turbo-rotor (A)	67	Vibrations and fractures in the machining	0.0	Development of voluntary controls (A)	40
tion rotor critical-speed analyses (A)		of plastics (A)Ap	66	Dynamic dummyMr	68 55
Ag	67	RUBILOTTA, P. J.		Engineering problem of ski safety, The	••
Dynamics of continuous multimass rotor systems (A)Ag	07	3000-psi hydrostatic facility, A (for		(A)	78
High-speed rotors supported by air-	67	static and dynamic pressure tests) (A)	56	Flexing mower bladeJa	34
lubricated oil bearings, An experi-		Rugh, W. J.	90	Industrial truck safety operation and maintenance of industrial trucks (A)	
mental study of —		Linear optimal control problems, A new		maintenance of industrial discussion.	68
Part 1: Rotation in pressurized and self-	60	approach to the solution of (A)Ap	61	Infants and children in the adult world	
acting foil bearings (A)	63	Ruiz, C.		of automobile safety design: pediatric	
periodic excitation (A)D	60	Plastic limit pressures of reinforced open-		and anatomical considerations for de- sign of child restraints (A)S	78
Influence of flexibly mounted rolling ele-		ings in cylindrical shells, Experimental		Infrared tire testN	51
ment bearings on rotor response	99	investigation of the (A)Mr	69	Looking ahead in nuclear powerAg	30
Part 1 — linear analysis (A)	83 64	RUMBARGER, J. H.		Plant engineer's impact upon safety (A)	73
Massive rotorN	52	Elastic contact of a hollow ball with a flat plate, Analysis of the (A)O	84	Public contract standardsS	91
Methods for balancing high-speed rotors,	-	Influence of structural support upon roll-		Reduces pane in the headMr	47
Significant developments in (A)Ag Precession and critical speeds of rotor	62	ing element bearing performance, A		Safety aspects in the design of indus-	
systems, An analysis of (A)Ag	66	general method for predicting the (A)	84	Skid roadF	68 42
Rigid-body rotor dynamics: dynamic un-		Rung, R.	0.4	Standards dilemma, TheJe	
balance and lubricant temperature	65	Stress distribution and spring rates in a		Thermal protective visorJa	30
Whirl dynamics of a rotor partially filled	00	cantilever cone ring combination, The		Tire Industry Safety CouncilAg	80
with liquid (A)Je	66	(A)Mr	69	SAFETY, HIGHWAY	
ROUGHNESS		RUNSTADLER, PETER W., JR.		Brake systems research	48
Influence of surface roughness on the		Named vice-president and technical di-		Optimization of a viscoelastic structure:	-
mechanism of friction, The (A)D	63	rector of Creare, Inc., Hanover, N.H.		the seat-belt problem (A)D	66
Resistances to heat and momentum trans- fer in the viscous sublayer at rough		Straight channel diffuser performance at		SAGAWA, T.	
walls, Some correlations for (A)O	88	high inlet Mach numbers (A)Je	63	Reduction of noise and vibrations in a	75
ROUHIAINEN, P. O.		RUPTURE		SAHAY, B.	
Deposition of small particles from tur-		Conditions for the rupture of a lubrica-		Steady-state response of a two-degree-of-	
bulent streams, On the (A)N	67	Part 1: theoretical model (A)D	64	freedom double bilinear hysteretic sys-	
ROULEAU, W. T.		Rusca, R. A.		tem (A)Ag	63
Water - hammer attenuation with a tapered line (A)F		Fundamentally new cotton spinning sys-		StLouis, L. Dynamic measurement of absolute track	
Roundicator	61	tem, Progress toward a (A)Ja		properties (A)Ag	
Roundness measurement		RUSHING, FRANK C.		SAKUMOTO, Y.	
Part 3 — Applying the standardD	30	Elected ASME FellowAg	106	Gas turbine blade materials after a long	
Roundness standard in use, The (A)		Russ, John M.		term of service, Metallurgical studies	
Ар	53	ObituaryD	100	on (A)	00
Roundness		RUSSELL, KENNETH F.		Earnings of scientists, engineers and	
Effects of mechanical and electrical filter- ing on roundness measurements (A)		ObituaryS	116	technicians	
Ар	52	RUSSELL, ROBERT A.		"Salaries of Scientists, Engineers, and	
Roundness measurement		Elected ASME FellowAg	106	Technicians — A Summary of salary Surveys" ————Ag	07
Part 1 — Importance and interrela-	on	Russia		Recruitment heaviest in history of Poly-	
tionships O 26; (C) (D) (AC) D Roundness as related to other meas-	67	Oil is where you find it: old adage yields new problems (U.S., USSR face tough		technic Institute of BrooklynJe	76
urements (A)Ap	52	transporting problem)S	88	Salaries vs. cost of living	82
Part 2 — The proposed standardN	36	Rust, S. Murray, Jr.		SALERNO, A. A.	
Part 3 — Applying the standardD		Re-elected to six-year term as appointed	1	Low sulfur fuels, Engineering for (A)	
Roundness standard in use, The (A)		trustee of Lehigh UniversityMy	151	SALERNO, VITO L.	11
ROUNDUP. See NEWS	-	RUTH, ROBERT L.		Elected ASME FellowF	87
Rouse, Warren, E.		Named a vice-president of Sperry Rand		Stress distribution and spring rates in a	
Obituary	102	Corp.'s Vickers Division, Troy, Mich.		cantilever cone ring combination, The	
				(A)Mr	00

SALLEE, G. P.		SCARLETT, B.		SCHRAUB, F. A.	
Commercial aircraft propulsion systems,		Critical porosity of free flowing solids,		Thermal response of a reactor fuel as-	
Design requirements and objectives for		The (A)Ja	43	sembly cooled by flooding under loss-	
SALMON, PHILIP A.	67	SCHAEFER, A. O.		of-normal-coolant conditions (A)Ap	62
ObituaryF	89	Metal Properties Council, TheF	34	Schremmer, G. Endurance strength and optimum dimen-	
SALT	00	SCHEDULING		sions of Belleville springs (A)Mr	70
Gas turbine sea salt problems and solu-		Computer scheduling and simulation sys- tem (A)Ag	73	SCHRIER, H. M.	
tions, History of (A)Jl	61	SCHEIBEL, ALBERT H.		What sound can be expected from a worn	
Salt effects in mucin lubrication (A)O	83		111	tool? (A)My	100
SALT WATER		SCHEINEMAN, J. A.		Schriever, B. A.	
Allison model 501-K14 gas turbine 1000-	***	Optimizing the performance of large ball		Can systems analysis solve the trans-	
hr saltwater ingestion test (A)	62	control valves for motor-driven pump		portation problem?	14 78
Potential of the molten salt reactor for		stations (A)N	64	Public interest? (C)N	10
power generation (A)Ap	64	SCHELL, WILLIAM J., JR.		Schroder, H. J. Non-simple equilibrium aspects in ax-	
SALTSMAN, R. D.		Appointed manager, nuclear and genera- tion customer service, Westinghouse		isymmetric turbomachine flow theory,	
Removal of pyrite from coal, The (A)F	60	Electric Corp., Pittsburgh, PaN	108	Some (A)Jl	60
Sulfur content of coal, Facing up to the		SCHENCK, T.		SCHUBERT, D. W.	
(A)Je	70	Stresses in orthopedic walking casts (A)		Active vibration isolation of human sub-	
SALVADORI, MARIO	-	Š	77	jects from severe dynamic environments	
Elected ASME FellowF	87	Schiel, Merrill A.		(A)Ag	60
Reject heat and radiation from implanted		Elected ASME FellowJl	122	Schubert, Dale W. Electrohydraulic vibration isolation sys-	
radioisotope sources, Studies of (A)		SCHINDLER, JOSEPH N.		tems, Theoretical and experimental in-	
	105		74	vestigation of (A)Ag	64
SANDERS, JAMES C.		SCHINKE, K. B.		SCHUBERT, WILLIAM E.	
Obituary F	89	Correlation of light extinction smoke-	E77	ObituaryN	111
SANGER, N. L.		meter readings (A)Ap Schipmölder, J. B.	57	SCHUCHMAN, NORMAN J.	
Low-area-ratio water jet pumps, An ex-		Optimization of a viscoelastic structure:		Named general manager, midwest div.,	
perimental investigation of several (A)		the sent-belt problem (A)D	66	Molded Fiber Glass Body Co., Cen-	
SANGSTER, W. A.	74	SCHLACK, A. L., JR.		tralia, IllD	96
Calculation of rod bundle pressure loss		Response of a beam subjected to a cyclic		Schuh, N. F., Jr.	
(A)My	98	moving load, On the (A)Ag	61	Ocean simulation laboratory, An (A)F	54
SANTA BARBARA	90	SCHLINK, FREDERICK J.		SCHULER, WILLIAM C.	111
Undersea oil trapN	49	Receives University of Illinois College		The state of the s	111
SARDO, W. H., JR.		of Engineering honor awardD	96	SCHUM, HAROLD J.	
Unit loads in world commerce, The role		SCHMAELING, ROBERT T.	104	Determining the performance of certain	
of (A)D	56	ObituaryJe	104	turbine stator blades from total pres- sure surveys, Some measurement prob-	
SARGEANT, RONALD GILBERT		Schmeissing, H. N.		lems encountered when (A)	68
Appointed an associate development en-		Product flatness in strip rolling mills,		SCHUMANN, E. A., JR.	
gineer at Oak Ridge Y-12 Plant, an		Principles of self control of (A)My	101	Public interest? (C)N	78
atomic energy installation operated by nuclear division of Union Carbide		SCHMIDT, ALFRED O. Tools and engineering materials with			
Corp.,F	85	hard, wear-resistant infusions (A)My	103	SCHUMITZKY, A. Invariant imbedding and sequential inter-	
SARIN, LALIT K.	-	SCHMIDT, F. W.		polating filters for nonlinear processes	
Named director, product reliability and		Heat transfer laminar natural convec-		(A)Ap	58
quality assurance, Black & Decker		tion within rectangular enclosures (A)		SCHURR, C. A.	
Mfg. Co., Towson, MdD	95	N	70	New wrinkles in static a-c crane con-	
SARKIES, ERIC A.		SCHMIDT, L. C.		trol (A)D	54
ObituaryO	128	Pressures on silo walls (A)Ja	44	SCHWAB, R. C.	
SARPKAYA, TURGUT		SCHMIDT, ROBERT		Use of tapered double-cantilever-beam	
Confined vortex oscillator, A theoretical		Appointed editor of Industrial Mathe-		specimens for fatigue crack growth	
and experimental investigation of a		matics, journal of Industrial Mathe-		studies (A)Ag	71
Geometrically similar bistable amplifiers,	77	matics Society0	126	SCHWANER, WALTER S.	
The performance characteristics of (A)		SCHMITZ, J. M.		ObituaryN	111
······F	62	LNG piping supported in a flexible wharf,		SCHWARTZ, J.	
SARTORIUS, CARL J.	-	Design of (A)N	63	Performance map of the water heat pipe	
ObituaryJe	104	Schneider, Eric J.		and the phenomenon of noncondensible	
SATELLITES		Roundness measurement		gas generation (A)N	65
Signatures in infrared (EROS)0	57	Part 2 — The proposed standardN	36	SCHWARTZ, J. I.	
Space benefitsS	60	Schneider, R. W.		Friction-induced heating in axially loaded	
SATURATION		Axisymmetric, nonidentical, flat face		ball bearings (A)0	86
Fluid-jet amplifier with flat saturation		flanges with metal-to-metal contact be-		Schwarz, W. H.	
characteristics, A (A)	78	yond the bolt circle (A)Mr	67	Deviations from the cosine law for yawed	
SATURN PROJECT. See LUNAR TECHNOLOGY		Schneider, William C.		cylindrical anemometer sensors (A)	
		ObituaryD	100	Je	65
SAUTER, J. L.	04	Schneitter, Lee		SCIENCE	-
Reliability in computer programsP	24	ObituaryJa	102	Peace from the tap?F Regional development	100
		SCHNIDT, W. E.		Thesaurus of engineering and scientific	
Operating coal-fired, open-cycle MHD systems at low air/fuel ratios (A)My	105	Effects of coatings, containing spatially		terms	
SAXENA, U. K.	100	stabilized polar liquids, on stress corro-		USC range at Santa Catalina Island (A)	
		sion and fatigue resistance on metals (A)	69		69
Transient drilling temperature responses, Building a mathematical model to pre-			00	SCIENCE CENTER	
	102	Schoeller, Donald V.	104	Science center opensAg	80
SAXI. VICTOR		ObituaryJe	104	SCIENTIFIC RESEARCH SOCIETY OF AMERIC	
ObituaryF	89	Schoenhals, R. J.		College antecedents of successful engi-	
SAYERS, EDWARD J.	00	Choking and shock phenomena in a single-		neersJa 53; addendum (C)Ap	67
	89	vibrational effects (A)	68	Distinguished alumni (C)My	111
ObituaryF	69		00	Lehigh and Drexel were akipped (C)	
SAYERS, FRANK M.		Schoenwetter, Henry D. Named chief of engineering analysis		Rensselaer errata (C)My	67
Receives ASME certificate of award for services to Standards and Codes and		dept., Burns and Roe, Inc., Oradell,		Frankford Branch	224
Nuclear Vessel Code of Boiler and Pres-	1 /1	N.JN	108	Herschel Smith award of 1968 goes to	,
sure Vessel CommitteeMr	101	SCHOLARSHIPS. See GRANTS, STUDY		Milton C. StuartJe	
SAYERS, N. A.				SCOTLAND	
Development of a quintuplex mobile serv-		SCHRANK, EDWIN P. Named president of McNeil Akron, Di-		Mini-radar toolMy	92
ice pump (A)N	62	vision of McNeil Corp., Akron, Ohio,		Scott, C. J.	
SAYZOR, J. M.		and elected to board of directorsAg		Bounded expansions of supersonic flows	
C-5 engine inlet development (A)Jl	65	103; S		(A)N	

SCOTT, CHARLEY		Seireg, A.		dimensional and shell-theory analysis of	
Appointed professor of mechanical engi-		Behavior of in vivo bone under cyclic	78	Part 1: Analytical foundation (A)N	74
neering and associate dean, University of Alabama Graduate School, Tusca-		loading (A)S Optimum design of hydrodynamic journal	10	Part 2: Numerical results (A)N	74
loosa, AlaS	113	bearings (A)Ap	53	SHAH, R. P.	
_	98	Optimum design of rotating disks (A)S	73	Small-amplitude frequency behavior of fluid lines with turbulent flow (A)O	76
SCOTT, HERBERT		SELLMAN, GEORGE		SHAI, I	
Promoted to senior manufacturing engi- neer for Maytag Co., Newton, IowaS	119	Named national service manager, Dun-		Nucleate pool boiling of sodium, The	
Scott, R.	110	ham-Bush, Inc., West Hartford, Conn.	126	mechanism of stability criterion for	
Small closed Brayton cycle turbine-com-		SELSER, THOMAS W.		(A)My	96
pressor set for nuclear application, The		Obituary	128	SHAKEDOWN. See LOADING	
redesign and simulated test of a (A)	68	SEMINARS. See MEETINGS		SHANNON, R. L.	
SCOTT, RUSSELL B., MEMORIAL AWARD	08	SENATOR, M.		Forced laminar flow convection in a hori- zontal tube with variable viscosity and	
Recipient is Richard L. Merriam0	126	Limit cycles and stability of a nonlinear		free convection (A)My	98
Screws		two-degree-of-freedom autonomous vi-		SHARKS	
Flow of a melted plastic through a screw		bratory system (A)Ag	61	Countermeasures to dangerous sharks (A)	
extruder, Prediction of (A)F	62	SENSITIVITY		Í	69
Screw conveyors and feeders, A study of factors affecting the performance of		Low sensitivity sample-data control sys-	40	Porpoise-shark relationship, The (A)Je	59
(A)Ja	43	tems, Design of (A)Ap	60	SHARP, CAMPBELL KING	
Screw hopper dischargers, Entrainment		Sensors C. I. T. sensors — a design evolution (A)		ObituaryMy	154
patterns of (A)Ja	42	C. I. I. sensors — a design evolution (A)	62	SHARP, H. R.	
Scrubbing Super Su	00	Development of a pneumatic sensor for	-	Kenai (Alaska) LNG plant design (A)	60
Super scrubberS SCRUTTON, R. F.	90	measuring the torque of instrument ball			00
Vibrations and fractures in the machin-		bearings (A)0 Deviations from the cosine law for yawed	84	SHAW, CHARLES E. Elected a principle of McKinsey and Co.,	
ing of plastics (A)Ap	66	cylindrical anemometer sensors (A)Je	65	Inc., New York, N.Y., international	
SCUTT, EDWIN D.		Fluidic overspeed sensor for a power tur-			113
Elected ASME FellowD	98	bine (A)Jl	62	SHEA, JOSEPH M.	
SEABORG, GLENN T.	20	Fluidic turbine temperature sensors in gas turbine engines, Feasibility study		Vibration monitoring 0 40; (A) Ag	73
Looking ahead in nuclear powerAg SEAGER, D. L.	30	of (A)	61	SHEAR	
Dynamic behavior of helical gears (A)		High-speed camera synchronizationMr	51	Effects of combined shearing and stretch- ing in viscoelastic lubrication (A)D	61
Ag	61	High temperature sensors for gas tur-	65	Plane waves due to combined compres-	
SEA GULLIVER. See INSTRUMENTS.		Optical sensors (A)	74	sive and shear stresses in a half space	
Underwater		Optical study of a fluidic temperature		(A)	80
SEALAB. See LABORATORIES		sensor (A)Mr	63	Transient shear waves in two joined elas- tic quarter spaces (A)	66
SEALANTS, SEALING, AND SEALS		Predictive logic control of an on-off sys- tem with one simple sensor (A)Ap	60	Turbulent, compressible free shear layers,	-
Anaerobics — a new approach to gaskets		Sensitive tiltmeterF	43	Initial development of (A)Je	63
Ag 26; (A) Ap	66	Signatures in infrared	57	SHEARER, WILLIAM A., JR.	
Designs for closures and shell jointsJe	24	SERVAES, H.		Elected president of Delaware Council of	
Hermetically sealed elbow actuatorJa	31	Effects of forced-feed lubrication on per-		Engineering Societies, Wilmington, Del.	85
Hermetically sealed pumpD Hydrostatic seal, The spring supported	45	formance characteristics of full finite		SF	80
(A)Ap	52	journal bearings, The (A)D	61	SHEDDING Fatigue failures induced in heat ex-	
Maintenance-free roofS	56	SETH, DONALD W. Named president of Gould Ionics, Inc.,		changer tubes by vortex shedding (A)	
Performance of the orifice-compensated hydrostatic face seal under pressure and		Canoga Park, Calif., new company		N	60
thermal loading (A)Ap	52	formed by Gould-National Batteries,		SHEIKH, RAMSY U.	
Spiral-grooved shaft sealsJa	30	Inc., and North American Rockwell		Heads newly formed Corporate Product	
SEAMS		Согр.,Му	151	Development Group, Riley Stoker Corp.,	100
Maintenance-free roofS	56	SETHI, P. S.		Worcester, MassJe	200
Seam puckering as a mechanical insta- bility phenomenon (A)	76	Effects of some gaseous environments on the creep of a stainless steel (A)Ag	70	SHELLS Axisymmetric response of a fluid-filled	
SEAT BELTS	10	SETTERHOLM, VERNON M.		spherical shell to a local radial im-	
Optimization of a viscoelastic structure:		Appointed president of Spartan Aviation		pulse - a model for head injury (A)	
the seat-belt problem (A)D	66	Inc., subsidiary of Automation Indus-		B Alice of the Live I also I a	
SEAWELL, JESS		tries, Tulsa, OklaS	113	Buckling of cylindrical shells, The ef- fect of general imperfections on the	
Transferred to Richmond, Va., by Robert-		Setting		(A)0	
shaw Controls Co. as project manager		Setting and grouting large compressor	**	Buckling problems of axially compressed	
in firm's marketing departmentAp	97	units, Advances in (A)	75	thin cylindrical shells of infinite or finite length, Perturbation solutions for	
SEBALD, JOSEPH F.		SEWAGE TREATMENT	90 -	the (A)Je	
Joins Gilbert Associates, Inc., engineer architects, of Reading, Pa., to engage		Sweet water from sewageMy Shabaik, A. H.	69	Damping of cylindrical shells coated with	
in special consulting engineering serv-		Axisymmetric extrusion with experiment,		viscoelastic materials, On the (A)Ag	60
ices; is president also of Heat Power		Comparison of two complete solutions		Ductile creep rupture of shells with strain	
Products Corp., Bloomfield, N.JAg	103	in an (A)My	102	hardening and time-dependent loading (A)	
SEBAN, R. A.		Eutectic alloy of Pb and Sn, Some extru-		Excitation of an elastic cylindrical shell	
Flow and heat transfer in a laminarizing turbulent boundary layer (A)N	68	sion studies of the (A)My	101	by a transient acoustic wave (A)N	76
Steam bubble collapse, On some aspects		SHACKELFORD, DOROTHY M.	00	Finite symmetrical deflections of thin	
of (A)N		Obituary F	89	shells of revolution, On (A)	
SEBASTIAN, F. P.		SHAFFER, BERNARD W. Recipient of 1968 Richards memorial		to an impulsive pressure (A)0	
Modern refuse incinerationAp	27	award		Nonlinear vibrations of shallow spherical	
SEBOK, G. G.		Errata (C)Ap	67	shells (A)	
Rolling bearing endurance testers, De-		Shafts		shells, The (A)	
sign of (A)S	74	High bypass ratio compound fan-shaft		Simulated launch of the "short stack"	•
SECURITY		engines for convertible rotary wing		M	r 48
Is plant security for you?Ag	74	aircraft (A)		SHEN, F. A.	
SEDIMENTATION Contribute analysis affects on additional and additional additional and additional		a helicopter application (A)S		Optimum stiffness of externally pres	
Centrifuge analysis — effects on sedi- mentation coefficients of angular ve-		Noncontacting torquemeters utilizing		surized thrust bearings in turbulent re gime (A)	
locity lag, of deviations from Stokes		magnetoelastic properties of steel		SHEPARD, BERGER M.	-
law of drag, and of acceleration effects		shafts (A)		Receives Navy distinguished civilian serv	
(A)J	64	hollow shaft for transferring high heat		ice award	
SEELY, WARNER		fluxes (A)0	88	SHERMAN, ROGER J.	
ObituaryAj	102	Spiral-grooved shaft sealsJa	30	Elected senior vice-president of Ebase	0
SEGREGATORS		Sнан, A. H.		Services, Inc., New York, N.Y., a sub	-
Automatic ferrous segregatorI	52	Elastic waves in a hollow sphere, Three-		sidiary of Ebasco Industries, IncA	p 97

SHERRICK, J. W.		ican Society for Testing and Materials		Skidding	
Roller bearing adapter mountings for		SHUTTLES	125	Skid roadF	42
railroad cars (A)P	53	Design of a shuttle accelerometer (A)S	76	Skidding in lightly loaded high-speed ball thrust bearings (A)0	86
New technique for identifying linear sys-		Sidhom , M. M.		SKIDMORE, KENNETH L.	1116
tems, A (A)Ap	59	Optimal design of staged jet-pump sys-	1100	ObituaryAp	102
SHIKES, N. B. Industrial truck safety operation and	-11	SIDNEY, WILLIAM E.	104	SKIING Engineering problem of ski safety, The	
maintenance of industrial trucks (A)	103.	ObituaryN	111	(A)S	78
SHINAGAWA, HIDEO	68	SIEBOLD, PAUL F.		Moistureproof skiJs	36
Double-notch creep rupture of 5 Cr-0.5 Mo		Named manager, applied boiler and fuel- burning research section, Riley Stoker		Skimobiles increasing, face hard useD	49
steels (A)F	57	Corp., Worcester, MassJe	100	SKINNER, JOHN H., JR.	
SHINN, W. E. New developments in circular knitting		SIEMIETKOWSKI, JOHN S.		Steady flow in the wake of a plane flame,	79
machine construction (A)	76	Multi-purpose fuel — problems that we face? (A)	68	Development of (A)O SKINNER, SHERROD E.	10
SHIPS, ROLL-ON/ROLL-OFF		SIEGMUND, C. W.		Named trustee emeritus at Aerospace	1100
Marine boilersAg	57	Low sulfur industrial fuel oils (A)Je	69	Corp., Los Angeles, CalifN SKURKA, J. C.	107
SHIPS AND SHIPPING Gas turbine propulsion for LNG tankers		Signals Pressure signal generator for fluidic re-		Elastohydrodynamic lubrication of roller	
(A)Jl	66	search (A)0	79	bearings (A)D	65
Integrity of irradiated fuel shipping con-		SIKARSKIE, DAVID L.		SLACK, A. V. Sulfur-dioxide removal from power plant	
tainers subject to hypothetical fire acci- dent (A)Ap	62	Periodic motions of a two-body system subjected to repetitive impact (A)Ag	58	stack gas by limestone injection plant-	
Northwest Hydrofoil Line's hydrofoil ship	-	SILENCERS		scale tests at TVA (A)D	58
Victoria gas turbine main propulsion system (A)	69	Correlation of gas turbine exhaust silencer		SLAVIN, F. J. Aircraft steam catapultsMr	49
Nuclear EEL, TheN	23	performance in the laboratory and in service (A)	59	SLEDS	-
Nuclear EEL, The: a new concept in	E0	SILFIN, HOWARD		Multicomponent force transducer for use	1110
ocean freight transportation (A)Je Oil is where you find it: old adage yields	58	Plant engineer's impact upon safety (A)	73	on rocket sleds (A)Ag 6800-mph sledAg	52
new problems (U.S., USSR face tough		Silos	10	SLIDES AND SLIDING	-
transporting problem)S Olympus powered Brown Boveri gas tur-	88	Pressures on sile walls (A)Ja	44	Jet slideMy	88
bine machinery of the Finnish Navy		Silo loads in measuring models, Investiga- tion of (A)Ja	- 44	Steel-hard, slippery aluminumJe Thermodynamics, adhesion, and sliding	52
700 ton gunboat, Experience with the	69	SILVERSTEIN, C. C.	KW.	friction (A)D	64
Problems of a historic voyage	61	Heat pipe gas turbine regenerators (A)	the state	SLIP Braking via controlled "slip"Mr	E.C
Propulsion gas turbine experience on the Coast Guard Hamilton class high en-		S12 =	59	Slip ratios and film roughness in annular,	
durance cutters (A)	22	Silt Undersea silt-stabilizerD	39	viscous-turbulent, two-phase flow (A)	70
Propulsion systems for DDH-280 class		SILVER		Small-strain plasticity theory for planar	73
gas turbine destroyers, Description of (A)Jl	62	Borrowed silver returnedMy	122	slip materials, A (A)0	81
Small submersible support systems (A)		Simon, F. F. Stability of cylindrical bubbles in a verti-		SLOTTA, L. S. Model tests of material flow through	
Vibration and noise characteristics of an	59	cal pipe (A)0	87	dredge cutters and suction piping (A)	
aircraft-type gas turbine used in a ma-		Transition from film to nucleate boiling in vertical forced flow (A)N	68	D	56
rine propulsion system (A)Jl	60	SIMONEAU, R. J.	00	SLOTS AND SLOTTING Flow through cascades of slotted compres-	
SHIRALKAR, B. S.		Transition from film to nucleate boiling	1	sor blades (A)Jl	60
Co-author with Peter Griffith of paper receiving "best" award from 1968 Na-		in vertical forced flow (A)N	68	Gravity flows of ideally plastic materials through slots (A)Ja	
tional Heat Transfer ConferenceO	120	Simons, W. H. Operating coal - fired, open-cycle MHD		SMALL, D. A.	**
SHIRES, FRANK	-	systems at low air/fuel ratios (A)My	105	Response of a fluidic air gauge (A)Je	64
Elected ASME FellowD SHOCK	20	Simonson, E. R. Electron paramagnetic resonance meas-		SMALL, RAMOND E. Elected vice-president of General Electric	
Choking and shock phenomena in a single-		urements of strain-induced ozone crack-		Co., Lynn, MassS	
component two-phase flow including		ing in rubber (A)Ag	74	SMELOFF, E. A.	
vibrational effects (A)	68	Simpson, John W. Appointed president of power systems		Mechanical heart assists, Development of (A)	
as a dynamic element in shock and		unit, one of four company-like units		Sмітн, А. М. О.	0.
How thickness and material properties	66	recently established by Westinghouse Electric Corp., Pittsburgh, PaIl	110	Solution of the incompressible turbulent	
influence thermal shock stresses in flat		Sims, Chester T.	110	boundary-layer equations with heat transfer (A)N	
Shock load protection through energy ab-	68	Hot-corrosion-resistant alloys for marine		SMITH, ARVIN	
sorption and dissipation methods, De-		applications, Progress in the develop-	-	Photovoltaic power technology, Status	
sign principles for (A)S	72	Sinclair, G. M.		of (A)Mr SMITH, B. H.	66
Shock propagation in a strain-hardening material (A)O	82	Environmentally assisted fatigue crack		Long life, lightweight lubrication-sys-	
Shock structure in transversely impinging	70	growth rates in SAE 4340 steel (A)	70	tems for high speed machinery (A)S SMITH, C. T.	71
jet flows (A)	79	Sines, G.		Elected a vice-president of Babcock &	
tem, Design and analysis of the (A)S	70	Biaxial fracture criterion for porous brittle materials, A (A)Mr		Wilcox CoS	
Thermal shock on a finite disk due to an instantaneous point heat source (A)O	81	Tensile fracture of parallel fiber compos-		SMITH, C. W. Flow of a melted plastic through a screw	
SHOEMAKER, A. F.	10	ites, A statistical model for the (A)		extruder, Production of (A)F	
Strengthening glass and glass-ceramics		Singh, D.	66	SMITH, E. O.	
SHOUMAN, A. R.	26	Effect of compressibility on the perform-		System planning and optimum load dis- patch for nuclear power plants (A)Ap	
Stagnation pressure losses of compres-		ance of a screw pump (A)Mr Singhania, S.	64	SMITH, ERIC H.	
sible fluids through abrupt area changes		Compressible laminar wall jet with ar-		Named engineering consultant and advisor to fuel burning department, contract	
neglecting friction at the walls (A)	65	bitrary wall temperature, Similarity		engineering division, Riley Stoker Corp.,	
SHOWS, PRODUCT. See EXHIBITS	18	analysis of (A)0	77	Worcester, Mass.	100
SHREEVE, C. A., JR.		Sisson, T. R. Low speed chatter effects, An explana-		SMITH, G. E. Appointed director of market research by	
Entrainment of water by stream of suc-		tion of (A)Ag		Peabody Engineering Corp., New York,	
cessive air bubbles, An investigation of the (A)	104	SIZELOVE, OLIVER J.		N. YJa	99
SHROYER, F.		Made fellow member of American Insti- tute of Industrial Engineers		SMITH, GOFF Elected president of AMSTED's Indus-	E FO
Effect of a central circular hole on	- Care	Skewing		tries, Chicago, Ill.	
fundamental plate frequency (A)Ag	63	Simultaneous lateral skewing in a three-		SMITH, H. F.	
SHUMAN, EVERETT C. Elected to honorary membership in Amer-		flow (A)		Gas turbine propulsion for LNG tankers (A)	

America, gives 1988 award to Millon C. Starrt. J. L. J. L. James and the control of the control	MITH, HERSCHEL, AWARD		Conflicts in engineers' responsibilities—	107	Flow patterns of granular materials in	AK
C. Steart — ——————————————————————————————————	Frankford Branch, Scientific Society of		personal decision (A)My	107	flatbottom bins (A)Ja Gravity flow of noncohesive granular	40
Surry, L. L. J., Indeed, with legal sitrogen, Tap Pool-belling with legal sitrogen, Tap Pool-belling with legal sitrogen, Tap Pool-belling baset transfer to inguid helium. Part Interest to molecular radiation of an extraction of any pollution of any pollution progress of species (A) with problems and the Pool-belling has the transfer to horizontal gas-old any pollution of the pollution. Part Int Fight Links (A) — 5 Store, W. B. Surry, L. D. Low with fash, Engineering for (A) with fash, Engineering progress — present status of any pollution of any pollution of the pollution of						
Nuclease boiling with liquid stronger. The interption of A. Interption of A. Interpretation of the Stronger of		99		107		43
Interpretation of (A) — Interpretation of the complete production of the co					Gravity flows of ideally plastic materials	
Pool-bolling heet transfer to liquid helium, Pollin filtered or moisear relation at the present of metal program for present and the state of the st		81		79	through slots (A)Ja	44
The inflamence of suchear relatation in a part of the compressor (A) — 16 of the compressor (A) — 17 of the compressor (A) — 17 of the compressor (A) — 18 o		01		977		68
Service of the control of the contro	The influence of nuclear radiation on					00
Dark based on hand geometry Ar Based Compressors (A) and proposed processors of the politics of the following and society for the suppression of t		61	"Nonpersonal" air poliution (C)			44
Automation systems for large gas pleshes STITL, I. P. Optimum arrangement of rectangular fine on bettiental surfects for free-countries of the control of	SMITH, J. P.					
accomplements (A) — Monitorional surfaces for free-convection hast transport for free-convection hast transport for free-convection has transport for free-convection for decident has transport for free-convection for free-convection has transport for free-convection for	Automation systems for large gas pipeline					
Optimus arrangement of rectangular fine on horizontal arrives for fire-social and arri		75	automobile safety design: pediatric and		the (A)Ja	42
on horizontal surfaces for free-convention that interest (A)						
tion bast transfer (A) Nowbread. At the anglespectament of the mode and the state of the state o						70
SNOTE, M. C. Low sulfur fuels, Engineering for (A) SITTE, MARION L. SULTE, MARION L. SULTE, M. C. SULTE, M. C					(A)N	73
Surrie, Marion L. Marion S. Surrie, Marion S. Marion S. Surrie, M.		70				
SETTI, Manno Language of composition measurement years in (A) — Apportance research, decision theory, and the control products an abhatting elember come (A) — O. S. STATE, R. J. STATE, R. S. STORE, A.				**		44
SINTIN, MARION L. STITLE, P. C. SITTIN, P. C. SOII mechanics and foundations for oceans of the changing nature of engineering and style and the changing nature of engineering and style present and the changing nature of engineering and style present and the changing nature of engineering and style present and the changing nature of engineering and style present and the changing nature of engineering and style present and the changing nature of engineering and style present and the changing nature of engineering and the changing of engineering and the ch		71		57	Particle behavior, storage, and flow (A)	-
Elected ASME Pallow Three-dimensional boundary-layer flow Soliting Association for continental Manufacturing Co., Cincinnasi, Ohio, derf Society 15th annual design on- term of the suppression of direst exhaust doin and mobe Arat. If Project the suppression of direst exhaust doin and mobe Part. If Project the suppression of direst exhaust doin and mobe Part. If Project the suppression of direst exhaust doin and mobe Part. If Project the suppression of direst exhaust doin and mobe Part. If Project the suppression of direst exhaust doin and mobe Part. If Project the suppression of direst exhaust doin and mobe Part. If Project flow and the suppression of direst exhaust doin and mobe Part. If Project for the suppression of direst exhaust doin and mobe Part. If Project for the suppression of direst exhaust doin and mobe Part. If Project for the suppression of direst exhaust doin and mobe Part. If Project for the suppression of direst exhaust doin and mobe Part. If Project for the suppression of direst exhaust doin and mobe Part. If Project for the suppression of direst exhaust and conditions. On the project of direst exhaust and continue project Part. If Project for the suppression of direst exhaust and conditions for prosent Source Part. If Project for the suppression of direst exhaust and conditions for occan prove the suppression of the suppr		**				43
SMITH, P. C. About an ablating slender cone (A) — Of Secretary and Destrict of sugmenting purposes — present status (A) — Secretary of sugmenting purposes — present status (A) — Secretary of sugmenting for Continental Manufacturing Co., Cincinnat, Oblo, winner in Gray and Ductile Iron Foundary Society 19th annual design or Secretary 19th annual design of Secretary 19th annual design or Secretary 19th annual design of Secretary 19th annual de		101				
Three-dimensional boundary-layer flow about an ablating sinder one (A) — OSISTER, R. I. SITTIR, R. J. SITTIR,		202	design (A)0			44
about an ablating stender cone (A) — O Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — II Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and foundations for occase (A) — O Solf mechanic and founda					Powder materials, Some characteristic	43
Soli mechanics and foundations for ocean origineering purposes present status of Soli mechanics and foundations for ocean origineering purposes present status of Solimental Co. Continental Manufacturing Co. Continental, Ohio, dery Society 15th annual design context with the Context of Solitary Solit		76				40
Soli mechanics and foundations for ocean engineering purposes — present status an engineering purposes — present status and content of the proposes of the pro						42
(A) If the property of the public interest, The profit priority in embedding and society profit of the priority of solids, A technique for continuation of the profit of the profit priority in embedding and society of the profit of the profit priority in embedding and society of the profit of the profit priority in embedding and society of the profit of the priority of solids, A technique for solid laberant for mode suppression of profit of the solid laberant for mode suppression (A) App 75 make emission of part II. Proposed mechanian for mode suppression (A) App 75 make emission of part II. Proposed mechanian for mode suppression (A) App 75 make emission of part II. Proposed mechanian for mode suppression (A) II 50 miles for the suppression (A) II 50 m						
Director of engineering for Continental Manufacturing Co. (Incinnate). Ohio der? Socialty 15th annual design contents of the Continental Control of the Continental Control of Co			tional progressAg	14	material (A)0	82
Director of engineering for Continental Manufacturity Co. Cinclinate, Ohlo, winner in Gray and Dactile froe Founteet Manufacturity Co. Cinclinate, Ohlo, winner in Gray and Dactile froe Founteet Manufacturity Co. Cinclinate, Ohlo, winner in Gray and Dactile froe Founteet Manufacturity Co. Cinclinate, Ohlo, winner in Gray and Dactile froe Founteet Manufacturity Co. Cinclinate Co.		69				
Manufacturing Co., Clackmail, Ohio, winner in firgy and Ductile from Founder's Society 15th annual design condered Society 15th annual des				24		-
wimer in Gray and Ductile Iron Foun- derf Social y 15th annual design on- test WILLIAM W. Jr. Notinger and a politicition (C) N SMORE F. E. STOCE SMORE STATE I Proposed mechanism for anoise suppression (A) — Ap Part II: Pield trials (A) — Ap Part III: Pield				107		62
dered Society 15th annual design consteat test — F SMITH, WILLIAM W. Jr. Nonpersonal air pollution (C) N SMOORE, F. E Patigne resistant fastener (A) S SMOORE F. E Follower sestiant fastener (A) S SMOORE F. E SMOOR			Bart 2. Social responsibilities The My			81
SMITH, WILLIAM W. Jr. "Nonpersonal" air pollution (C) N. 77 SNOOR, F. E. Failigne resistant fastener (A) S. 572 SNOOR, S. E. Failigne resistant fastener (A) S. 572 SNOOR SUGA No STORE Fivel additives for the suppression of diesel exhaust odor and smoke Part II: Field trials (A) AD 5 Fivel additives for the suppression of diesel exhaust odor and smoke Part II: Field trials (A) AD 5 Foreign and SAMPENTURING EXCINEES Part III: Field trials (A) AD 5 STEATH, WILLIAM H. Oblitaary J. Oblitaary J. SOLILLON S						0.
SMITH, WILLIAM W. JR. "Nonpersonal" air pollution (C) N 75 SMORE, F. E. SMORE Study N 5 SMORE STUDY NEW ST		85				
Nonor, F. E. **Faigue resistant fastener (A) S.* **Stoop, F. E.* **Faigue resistant fastener (A) S.* **Stoop, F. E.* **Faigue resistant fastener (A) S.* **Stoop, S. E.* **Faigue resistant fastener (A) S.* **Stoop, S. E.* **Paigue resistant fastener (A) S.* **Stoop, S. E.* **Stoop, S. E		00				64
SMOOR, F. E. SMOOR Study No. 5 SMOOR Survey No. 5 SMOOR Survey No. 5 SMOOR Survey No. 5 SMOOR Study No. 6 SMOOR STUDY NO. 5 SMOOR STUDY NO		77				
Fatigue resistant fastener (A) S SNOKE SINGE SINGE STORKE		••	SOCIETY FOR EXPERIMENTAL STRESS ANALY	YSIS	Anisotropic plate steel, Neck-and-split	
SMOG Study No. 55 SMOKE Smog S		72	Meeting and exposition with pressure		tensile fracture of (A)F	56
Smog Study Notes and suppression of diesel exhaust odor and smoke Part i: Proposed mechanism for smoke suppression (A) As As Society of Manufacturine Excises an article and suppression (A) As As Society of Manufacturine Excises an Ast Notes name change Notes and the Analog Notes and College of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society of Manufacturine Excises in orthopedic walking casts (A) Society					Somerset, J. H.	
Foul additives for the suppression of diesel exhaust odor and smoke Part I: Proposed mechanism for smoke suppression (A)		51		~		
Figure and different from the suppression of diseal exhaust odor and smoke Part I: Proposed mechanism for smoke suppression (A) Ap 57 Formoke emission (A) A						77
diesel exhaust odor and smoke Part I: Proposed mechanism for smoke suppression (A) Ap 8 57 Part II: Field trials (A) Ap 8 57 SOLITIT OF WOMEN EXCINEERS NO SOLITIT OF WOMEN EXCINEERS NOT SOLITIT OF WOMEN EXCINEERS NOT SOLITIT OF WOMEN EXCITE OF WOMEN EXCINEERS NOT SOLITIT OF WOMEN EXCITE OF WOMEN E				100		
Part I: Proposed mechanism for smoke suppression (A) Ap 58 Part II: Field trials (A) Ap 57 Smoke emission				95		-
Persents first Rodney D. Chips award to Smoke emission 0 103 SNEATH, WILLIAM H. Obituary 5 SNEILIN, W. U. SNEILIN, W. LENRY H. Obituary 5 SNEILIN, W. LENRY H. Obituary 5 SNEILIN, W. LENRY H. Obituary 5 SNEILIN, SNEWE ANDREW Appointed environmental centrol products manager at Combustion Engineering, Inc., Windsor, Conn. N. SNOREN, R. C. Rodning materials — adhesive bonding metals (ch) 5 SNOW, W. B. S			The second secon	00		30
Smoke emission	suppression (A)Ap	58				
SNEALIN, W.L.IAM H. Obituary Je Obituary SELLIN, W. U. SNELLIN, K. P. KRNY H. Obituary S. SNOEK, K. R. C. Bonding materials — adhesive bonding metals (A) SNOCKEN, R. C. Bonding materials — adhesive bonding metals (A) SNOW W. B. Meteorological and bydrological drought manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Ag SNOW VEHICLES. See Vehicles, Snow SNYDER, DAVID N. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Ag SNYDER, LEONARD L. Obituary Je SNYDER, R. C. SNOERNER, R. C. SNOERNER, R. C. SNOERNER, DAVID N. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Ag SNYDER, LEONARD L. Obituary Je SNYDER, R. C. SNOERNER, R. C. SNOERNER, R. C. SNOERNER, R. C. SNOERNER, DAVID N. SNYDER, R. C. SNOERNER, DAVID N. SNYDER, LEONARD L. Obituary Je SNYDER, CORNER J. SNYDER, R. C. SNOERNER, R. C.	Part II: Field trials (A)Ap					54
SOLILE, W. U. British gas generators for gas turbines, Developments in (A) J. J. SNELLING, HENRY H. Obituary S. SINDER, ANDREW Appointed environmental control products measure at Combustion Engineering, Inc., Windoor, Conn. SNOCREN, R. C. Bonding materials — adhesive bonding materials (A) S. SNOW, W. B. Meteorological and hydrological drought in Raritan River basin in New Jersey (A)	Smoke emission	103		101		40
SNELLIN, HENRY H. Obticary S. SNIDER, Andrew Appointed environmental control products manager at Combustion Engineering. Inc., Windsor, Com. N. SNOERS, R. C. Bonding materials — adhesive bonding metals (A) S. SNOW, W. B. Meteorological and hydrological drought in Raritan River basin in New Jersey (A) SNOW FRICES. See Vehicles, SNOW SNYDER, DAVID N. Named manager of composition measurement systems sales, Pozboro Co., Foxboro, Mass. SNOWER, DAVID N. Named manager of composition measurement systems and specific and anatomical considerations for design of child restraints (A) SNOER, GREAT I. Obticary Je SNYDER, LONGMAD L. Obticary Obticary SNOW FRICES. See Vehicles, SNOW SNYDER, DAVID N. Named manager of composition measurement systems sales, Pozboro Co., Foxboro, Mass. SNYDER, LONGMAD L. Obticary Je SNYDER, CORMAD L. Obticary SIGNAM SCIENCE Transfer in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) SNYDER, ROBERT I. Appointed to U.S. Department of Transportation's Technical Pipeline Safety Standards for transporting gas by pipeline Age 103 SOCIETY Atomic power—who looks after public safety design: pediatric and anatomical considerations for solos, after public series of air jets (A) SOLIBIFICATION TRANSFER Atomic power—who looks after public safety standards for transporting gas by pipeline Age 103 SOCIETY Atomic power—who looks after public safety standards for transporting gas by pipeline Age 103 SOCIETY Atomic power—who looks after public safety design: pediatric and anatomical possiderations for design of child restraints (A) SOLIBIFICATION TRANSFER Atomic power—who looks after public series of air jets (A) SOLIBIFICATION TRANSFER Atomic power—who looks after public series of air jets (A) SOLIBIFICATION TRANSFER Atomic power—who looks after public series of air jets (A) SOLIBIFICATION TRANSFER Atomic power—who looks after public series of air jets (A) SOLIBIFICATION TRAN						49
British gas generators for gas turbines, Developments in (A)	CompanyJe	104	Home-based computers	58		
Southly New Part of the sum of the soliding and analysis and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A)			Soderburg, Sten			
SNELLING, HENRY H. Obtuary SIDER, ARDREW Appointed environmental control products manager at Combustion Engineering, Inc., Windsor, Conn. N. SNOCKEN, R. C. Bonding materials — adhesive bonding metals (A)		-	ObituaryN	111		88
Obituary S SNIDER, ANDREW Appointed environmental control products manager at Combustion Engineering, Inc., Windsor, Conn. N SNOCREN, R. C. Bonding materials — adhesive bonding metals (A) Son, W. B. SNO, W. B. Meteorological and hydrological drought in Raritan River basin in New Jersey (A) — Soli mechanics and foundations for ocean engineering pruposes — present status (A) — J. SNOW, W. B. SNOW, W. B. SNOW VEHICLES. See VEHICLES, SNOW SNYDER, DAVID N. Named manager of composition measurement systems sales, Foxboro Co., Pox-boro, Mass. — Ag SNYDER, LEONARD L. Obituary — Je SNYDER, R. G. Infants and children in the adult world of antomobile safety design: pediatric and antomical considerations for design of child restraints (A) — S SYNDER, R. G. SNYDER, R. G. Infants and children in the adult world of antomobile safety design: pediatric and antomical considerations for design of child restraints (A) — S SYDER, R. G. SOLAR SCIENCE Tracking the sun — J.I. Appointed to U. S. Department of Transportation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline — Ag SOLIETY Atomic power—who looks after public safety? — Je Protecting the public (C) — S 22; 0 Avalanche: the cities and the 70's — Je Can systems analysis view the transport tation problem? — J.I. Public interest? (C) — N 78		09				00
SNIDER, ANDREW Appointed environmental control products manager at Combustion Engineering, Inc., Windsor, Com		110				
Appointed environmental control products manager at Combustion Engineering, Inc., Windsor, Com		110		62		57
manager at Combustion Engineering, Inc., Windsor, Com. SNOCKEN, R. C. Bonding materials — adhesive bonding metals (A) S SNOW, W. B. Meteorological and hydrological drought in Raritan River basin in New Jersey (A) S SNOW PERICLES, See VEHICLES, SNOW SNYDER, DAVID N. Named manager of composition measurement systems sales, Poxboro Co., Poxboro, Mass Ag SNYDER, LONAND L. Obituary Je 104 SNYDER, R. G. SNYDER, R. G. SIMPLEMENT IN the adult world of automobile safety design: pediatric and anatomoelie safety design: pediatric and sand of the solidification of t						
SOCKETING, J. F. SNOCKER, R. C. Meteorological and hydrological drought in Raritan River basin in New Jersey (A)			Experimental study of (A)O	87		
SNOCEEN, R. C. Bonding materials — adhesive bonding metals (A)	Inc. Windsor Conn.	107	SOECHTING, J. F.			70
Bonding materials — adhesive bonding metals (A)		101	Bounding principle in the theory of work-			
metals (A) Soil mechanics and foundations for ocean engineering pruposes — present status for the status of the st			hardening plasticity, A (A)0	81		
SNOW, W. B. Meteorological and hydrological drought in Raritan River basin in New Jersey (A)		70	Soil			70
Meteorological and hydrological drought in Raritan River basin in New Jersey (A) SNOW VEHICLES. See VEHICLES, SNOW SNOW R. DAVID N. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. SYOPER, LEONARD L. Obituary Je SNYDER, G. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A)		70	Soil mechanics and foundations for ocean		Sorting technology and its application to	, 0
SOUND ANALYSIS (A)			engineering pruposes — present status			56
SOLAR ENERGY Cellular solar collectors, Design considerations for (A)	meteorological and hydrological drought		(A)JI	69	_	
SNOW VEHICLES. See VEHICLES, SNOW SNYDER, DAVID N. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Ag 104 SNYDER, LEONARD L. Obituary. SNYDER, R. G. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A)		70	Solar Energy			46
SNYDER, DAVID N. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass. Mass. Solidar Science Tracking the sun			Cellular solar collectors, Design consid-		SOWDER, T. R.	
Named manager of composition measurement systems sales, Foxboro Co., Foxboro, Mass			erations for (A)Mr			56
ment systems sales, Foxboro Co., Poxboro, Mass. Ag 104 SNYDER, LEONARD L. Obituary Je SNYDER, R. G. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) S SNYDER, ROBERT I. Appointed to U.S. Department of Transportation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline Ag SOCIETY Atomic power—who looks after public safety? STANSFER Atomic power—who looks after public safety? Photovoltaic power technology, Status of (A) Mry Power from the sun Mry SOLAR SCIENCE Tracking the sun Jl 49 SOLIDERING Superior propane torch O 65 Superior propane torch						
SNYDER, LEONARD L. Obituary Styper, R. G. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) SNYDER, ROBERT I. Appointed to U.S. Department of Transportation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline SOCIETY Atomic power—who looks after public safety? Protecting the public (C) SREY OF Tracking the sun SOLIDERING Superior propane torch Solid (A) Soli	Named manager of composition measure-					
SNYDER, LEONARD L. Obituary SNYDER, R. G. SNYDER, R. G. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) Appointed to U.S. Department of Transporting gas by pipeline Solery Atomic power—who looks after public Solery Atomic power—who looks after public Solery Atomic power—who looks after public Solery Tracking the sun Soler Tracking the sun Sole Tracking the sun Soler Tracking the sun Sole Tracking the sun S	ment systems sales, Foxboro Co., Fox-					08
Obituary		104				Oc
SNYDER, R. G. Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A)						38
Infants and children in the adult world of automobile safety design: pediatric and anatomical considerations for design of child restraints (A) S SNYDER, ROBERT I. Appointed to U.S. Department of Transportation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline Ag SOCIETY Atomic power—who looks after public safety? Je Protecting the public (C) S 82; O 90 Avalanche: the cities and the 70's Je Can systems analysis solve the transportation problem? Ji Public interest? (C) N 78 SOLDERING Superior propane torch O 65 Superior propane torch		104		49		96
automobile safety design: pediatric and anatomical considerations for design of child restraints (A)				-	Computer-generated graphics in aero-	
anatomical considerations for design of child restraints (A)				ar.		76
child restraints (A) Some analysis solve the transportation problem? Sign of the first point of the first public the first pu	automobile safety design: pediatric and			- 00		105
SNYDER, ROBERT I. Appointed to U.S. Department of Transportation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline — Ag SOCIETY Atomic power—who looks after public safety? — Je Protecting the public (C) — S 82; O 90 Avalanche: the cities and the 70's — Je Can systems analysis solve the transportation problem? — Ji Public interest? (C) — N 78 tion of alloys (A) — N 70 SOLIDS. See also Bulk Materials; Mass TRANSFER TRANSFER Ap Line transporting dependent groups of experts (A) My Electrolytic water sterilizer — Je Fiber-reinforced superalloy — Je Fiber-reinforced superalloy — Je Fiber than frog hair — JI Fluidic transducer — Je Giant lunar "pancakes" — S Lunar-based A-power — My Manned aerospace simulation (A) — S Men on the moon — JI Men of the meteor — Ap What was it? (C) — Je What was it? (C) — Je What was it? (C) — Je Flow of dry bulk solids on bin walls		70				107
Appointed to U.S. Department of Transportation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline Ag 103 SOLIDS. See also Bulk Materials; Mass TRANSFER Air jets convey solid materials — Ap 21 Conveying solids with cooperating series of air jets (A) — Ja 43 Conveying solids with cooperating series of air jets (A) — Ja 43 Critical porosity of free flowing solids, The (A) — Ja 43 Detecting the public (C) — S 82; 0 90 Avalanche: the cities and the 70's — Ja 32 Can systems analysis solve the transportation problem? — Ji 14 Public interest? (C) — N 78 SOLIDS. See also Bulk Materials; Mass TRANSFER Air jets convey solid materials — Ap 21 Fiber-reinforced superalloy — Je Fiber-reinfo		10				
portation's Technical Pipeline Safety Standards Committee to help frame safety standards for transporting gas by pipeline				10		107
Standards Committee to help frame safety standards for transporting gas by pipeline ————————————————————————————————————	portation's Technical Discussion				Electrolytic water sterilizerJe	48
safety standards for transporting gas by pipeline	Standards Committee to help form				Fiber-reinforced superalloyJe	45
by pipeline Ag 103 SOCIETY Atomic power—who looks after public safety? By Detecting the public (C) S 82; 0 90 Avalanche: the cities and the 70's Je 32 Can systems analysis solve the transportation problem? JI 14 Public interest? (C) N 78 Plow of dry bulk solids on bin walls Plantar transaucer Je series of air jets (A) Ja 45 Giant lunar "pancakes" S Handy maneuvers S Handy manned aerospace simulation (A) S Men on the moon JI when of the moon JI of solids (A) Ja 43 "Professionalism" (C) O Menace of the meteor Ap What was it? (C) Je What was it? (C) Je protecting solution and the cooperating reliable transducer. Series of air jets (A) Ja 45 Giant lunar "pancakes" S Handy maneuvers S Handy manned aerospace simulation (A) S Men on the moon JI of solids (A) Ja 43 "Professionalism" (C) O Menace of the meteor Ap What was it? (C) Je protection and the protection of dry bulk solids on bin walls	safety standards for transporting gas				Finer than frog hairJl	44
SOCIETY Atomic power—who looks after public safety? Protecting the public (C) S 82; 0 90 Avalanche: the cities and the 70's Je Can systems analysis solve the transportation problem? Ji 14 Public interest? (C) N 78 Critical porosity of free flowing solids, The (A) Ja 43 Critical prosity of free flowing solids, The (A) Ja 43 Lunar-based A-power My Manned aerospace simulation (A) S Men on the moon Ji "Professionalism" (C) O Menace of the meteor Ap What was it? (C) Je Plow of dry bulk solids on bin walls Planetary slingshot O					Fluidic transducerJe	41
Atomic power—who looks after public safety? Je 38 Detecting atomic flow Mr 54 Lunar-based A-power My Manned aerospace simulation (A) S Protecting the public (C) S 82; O 90 Effect of initial pressures on flowability Avalanche: the cities and the 70's Je 32 of bins (A) Ja 43 "Professionalism" (C) O Can systems analysis solve the transportation problem? JI 14 of solids (A) Ja 44 What was it? (C) Je Public interest? (C) N 78 Flow of dry bulk solids on bin walls Planetary slingshot O						61
safety? Je 38 Protecting the public (C) S 82; O 90 Avalanche: the cities and the 70's Je 32 Can systems analysis solve the transportation problem? JI 14 Public interest? (C) N 78 Detecting atomic flow Mr 54 Manned aerospace simulation (A) S Men on the moon JI 43 "Professionalism" (C) O Menace of the meteor Ap What was it? (C) Je Public interest? (C) N 78 Flow of dry bulk solids on bin walls Planetary slingabot O						8
Protecting the public (C)	safety?Je	38	Detecting atomic flowM			74
Avalanche: the cities and the 70's Je 32 of bins (A) Ja 43 "Professionalism" (C) O Can systems analysis solve the transportation problem? Ji 14 Public interest? (C) N 78 Flow of dry bulk solids on bin walls Planetary slingshot O	Protecting the public (C)	90			Men on the moonJl	
Can systems analysis solve the transportation problem?			of bins (A)	43	"Professionalism" (C)0	93
Public interest? (C)	can systems analysis solve the transpor-				Menace of the meteorAp	3
	Public interest? (C)	70	Flow of dwy bulls salids on him in	44	What was it? (C)Je	7:
				44	Pyrotechnic actuated cable release	6.

SPACE TECHNOLOGY (Continued)		Spinning		STARK, LARUE H.	
Responsibilities of engineers (A)My Simulated launch of the "short stack"	107	Elastohydrodynamic lubrication of a spin-		ObituaryN	111
Mr	48	ning ball in a nonconforming groove (A)	85	STARK, LOUIS K. Appointed administrative engineer, fur-	
Spaghetti-flavored bacteria for Martian	60	Spira, J.		nace div., Pacific Scientific Co., City	-115
tripMy	84	Reject heat and radiation from implanted		of Commerce, Calif	126
Technology and society		radioisotope sources, Studies of (A)	105	STARKEY, NEAL S. Elected ASME Fellow	159
Part 1: Public interest, TheAp Public interest—first priority in en-	24	SPORN, PHILIP	-	STATORS	202
gineering design? (A)My	107	Elected honorary fellow, Institution of		Determining the performance of certain	
Part 2: Social responsibilities, TheMy	81	Mechanical Engineers, London, England	99	turbine stator blades from total pres-	
Social effects of technology (C)N Technology and society (C)Jl	79 72	Named 1969 recipient of Faraday Medal	99	sure surveys, Some measurement prob- lems encountered when (A)	68
Vacuum evaluation of lubricants and	14	from Institution of Electrical Engineers		Effects of transpiration cooling on tur-	-
techniques for space-exposed compo-		of EnglandJe Sprague, Philip T., Award	99	bine stator blade aerodynamics, Experi-	
nents (A)	62 53	Instrument Society of America award		mental investigation of the (A)Jl	64
"Weightless" in inner spaceJe	47	goes to A. Stirling GrimesD	96	STEAM Aircraft steam catapults	42
SPACE VEHICLES. See VEHICLES, SPACE		Sprague, R.		Improved design, An (C)My	111
Spacing		Titanium castings in gas turbine engines,	***	All steamed up	57
Exact transient response of an elastic half		The potential of (A)JI SPRINGER, E. KENT	62	Condensation of steam on a rotation ver- tical cylinder (A)	70
space loaded over a rectangular region of its surface (A)F	74	ASME vice-president, Region IXN	104	Formulations for the properties of steam	
Transient excitation of an elastic half		Critical submergence for vortexing in a		Je	79
space by a point load traveling on the		vertical cylindrical tank, Experimental investigation of (A)	76	General equations of two-phase systems and their applications to air-water bub-	
surface (A)N Transient shear waves in two joined elas-	75	Springs	10	ble flow and to steam-water flashing	
tic quarter spaces (A)D	66	Endurance strength and optimum dimen-		flow (A)N	72
Spahr, J. C.		sions of Belleville springs (A)Mr	70	Outside power	54
Appointed consulting engineer at West-		Less bounce to the ounceJa Spring equivalent to flywheel for minimal	33	car described as answer to air pollution)	
inghouse Large Turbine Division, Les- ter, PaS	114	coefficient of fluctuation, Synthesis of		S	101
SPAIN		(A)Ja	45	Steam bubble collapse, On some aspects of (A)N	73
Italy-Spain cableJa	40	Stress distribution and spring rates in a		STEAM INJECTION	
Spangenberg, Verne M.		(A)	69	Steam injection, A source of incremental	
Named vice-president of finance, Exotech	00	SREENIVASAN, K.	-	power (A)Jl	68
Inc., Rockville, MdAp SPARK IGNITION. See IGNITION	98	Thermal diffusivities of thermal energy		STEARNS, KARL T. Obituary	100
SPARKS, J. W.		storage materials, The determination			100
Symmetry of multiply separated positions		of: Part 2-Molten salts beyond the melt-		STEEL, THEODORE K.	
in coplanar motion, Conditions for (A)		ing point(A)Ap	55	Elevated to vice-president of academic af- fairs at New York Institute of Tech-	
Je	66	SRIDHAR, R.		nology and continues as dean of faculty	
Sparrow, E. M.		Invariant imbedding and sequential inter-		Му	151
Binary, gravity-flow film condensation (A)My	98	polating filters for nonlinear processes (A)Ap	58	STEEL	
Flow in the hydrodynamic entrance region	••	SRINIVASAN, A. V.	90	Alloy steel dynamic strain-aging and	50
of ducts of arbitrary cross section (A)		Gyroscopic systems as vibration absorb-		notch brittle fracture (A)F Anisotropic plate steel, Neck-and-split	40
Turbulent flow, heat transfer, and mass	72	ers (A)Ag	63	tensile fracture of (A)F	56
transfer in a tube with surface suction		Parallel damped dynamic vibration ab-	60	Bessemers, Last of theJa	33
(A)N	71	sorbers, Analysis of (A)Mr STABILITY	69	Biaxial residual surface stresses from grinding and finish machining 304	
SPECIAL LIBRARY ASSOCIATION	-	Load and stability analysis of tubular		stainless steel determined by a new dis-	
AMR featured at meetingJI	82	strings (A)N	64	section technique (A)F	57
SPECTROMETERS Global weather predictionF	44	Stability of continuous dynamic systems with parametric excitation (A)O	80	BOF steelmakingN Casing the Aleutian holeN	59 43
SPEED TECHNOLOGY		STACHIEWICZ, J. W.	80	Coming: super-refined steels and alloys	
High-speed punch press0	71	Deposition of small particles from turbu-		Ag	44
SPENGEMAN, DONALD T.		lent streams, On the (A)N	67	Deformation and fracture of steel from the examination of the behavior of	
Appointed director-corporate engineer-		STACHIW, J. D.		thick-walled cylinders submitted to high	
ing for Allied Chemical Corp., New	114	Critical pressure of spherical shell acrylic windows under short-term pressure		pressures, Study of the (A)Mr	
York, N. YS Sperling, F. B.	114	loading (A)F	56	Designing wire parts for high production	
Surveyor landing shock attenuation sys-		STACK, V. T., JR.		Double-notch creep rupture of 5 Cr-0.5 Mo	
tem, Design and analysis of the (A)		Specification and selection of mechanical	-	steels (A)F	57
S	70	seration equipment (A)S	80	Effect of creep in low-cycle fatigue of pressure vessels steel (A)Ag	71
SPERRY, ELMER A., JR.		Super scrubber8	90	Effect of mean stress and of mean strain	
ObituaryMr	105	STACK GASES	1117	in low-cycle fatigue of A-517 and A-	-
SPHERES Critical pressure of spherical shell acrylic		Sulfur-dioxide removal from power plant		201 steels (A)	71
windows under short-term pressure		stack gas by limestone injection plant- scale tests at TVA (A)	20	cycle fatigue life of large scale weld-	
loading (A)F	56	STACKING	58	ments in high strength steel (A)D	60
Elastic contact of a hollow ball with a flat plate, Analysis of the (A)O	84	STAKRAKE-new concept in bulk mate-		Fracture initiation in low strength steel	***
Elastic waves in a hollow sphere, Three-	04	rials handling (A)D	57	pressure vessels (A)	59
dimensional and shell-theory analysis		STAGING		in cyclically stressed 52100 steel, A	
Of Part 1: Analytical foundation (A) V	74	Optimal design of staged jet-pump sys- tems (A)My	104	study of the (A)	85
Part 1: Analytical foundation (A)N Part 2: Numerical results (A)N	74	STAGNATION	104	Improved galvanized steel (A)	80
Elastohydrodynamic lubrication of a spin-		Stagnation pressure losses of compressi-		prove reliability of high strength steel	
ning ball in a nonconforming groove	QF	ble fluids through abrupt area changes		components (A)	
(A)O Elastohydrodynamic theory of spherical	85	neglecting friction at the walls (A)Mr	65	Noncontacting torquemeters utilizing magnetoelastic properties of steel shafts	
bodies in normal approach (A)0	86	STAHL, EDWARD C. M.		(A)Il	
Flow around a sphere at high Reynolds	20	ObituaryF	89	Now generation, The	82
numbers, Experiments on the (A)N Motion of a spherical pendulum, A simple	76	STANCLIFF, ARTHUR D.	100	Stainless steel primary piping for the high flux beam reactor (A)F	
description of the (A)N	74	Obituary San Coppe the San San San	108	Stainless-steel racing vehicle	
Nonlinear vibrations of shallow spherical	74	STANDARDS. See CODES AND STANDARDS		Stress-corrosion cracking of AISI 52100	
shells (A)	74	STANLEY, W. J.	70	steel in turbine lubricant environments	
tation on hemispherical nosed bodies in		Planning for effective results (A)Ag	73	Temperature transition from linear elastic	
water at temperatures from 80 to 260	1	STANYAN, S. W. Obituary	100	to gross strain fracture conditions, Dy-	
deg F (A)O Unsteady motion of a sphere along a cir-	74	STAPP, KENNETH P.		namic tear test definition of the (A)	an
cular path in a viscous fluid (A)Je	65	World's largest building (C)D	67	"Transparent" steelJe	51

STEEL (Continued)		for nuclear waste containers, A (A)	40	Effect of residual stresses on the low cycle	
Very-short-time, very-h i g h-temperature creep rupture of type 347 stainless steel		Particle behavior, storage, and flow (A)	63	fatigue life of large scale weldments in high strength steel (A)	60
and correlation of data (A)Mr	71	·Ja	43	Effect of state-of-stress and yield crite-	
STEELE, C. R.		Pump turbines for New York Ag	57	rion on the Bauschinger effect (A)Mr	72
Timoshenko beam with a moving load, The		Storage facilities associated with an am-	61	Effects of coatings, containing spatially stabilized polar liquids, on stress corre-	
(A)Je	65	monia pipeline (A)N Unmanned warehouseD	53	sion and fatigue resistance on metals	
STEEN-JOHNSON, H.		STORAGE, PUMPED		(A)Ag	69
Uncertainty analysis in steam turbine testing: a report by ASME Performance		Power systems; the place of hydro and		Effects of material properties and compo- nent geometry on unstable propagation	
Test Code Committee No. 6 on steam		pumped storage	24	of defects (A)D	60
turbines (A)My	106	Yards Creek pumped storage project, Ex- periences on startup and trial operation		Elastic-plastic plane-strain solutions with	
STEIDEL, R. F.		at (A)Je	64	separable stress fields (A)N	75
Photoelastic stress exploration for pre- liminary design (A)Mr	70	STORY, R. W.		Elastic-plastic stress distribution in a	72
STEIGER, H. A.		Profile measurement of coated abrasive		Elastic ring, A mixed problem for an	
Experimental approach to question of 2-		surfaces (A)My	100	(A)Je	66
stroke or 4-stroke cycle, particularly for		STOUT, R. B.		Engineering practice for prestressed con-	
diesel engines of extremely high specific		Numerical comparisons in elastic-plastic torsion, On (A)Je	65	crete structures in nuclear containment	
output (A)Ag	74	STOUT STATE UNIVERSITY	-	applications (A)Ap Failure behavior in axially flawed ASTM	63
STEIGERWALD, E. A. Selecting metals for fracture toughness	c)	Wanted: retired engineers		A106B pipes (A)D	59
(A)S	67	To teach or be trained for challenging		Flow stress of 6061 Al alloy composites	
STEIN, M.		careers in engineering educationJe	75	(A)Mr	72
Dynamic response of pulmonary airways		STOWE, BOB M.	71	Fracture initiation in low strength steel pressure vessels (A)D	59
to imposed pressure oscillations (A)	-	Metric—there and here (C)Jl STRATIFICATION	11	Fracture of notched polymethyl meth-	-
STELZMAN, W. J.	67	Stratified charge, The third cycle—Mr	29	acrylate rings loaded in diametral com-	-
Temperature structure and heat transfer		Stratification amplification (C)Je	72	pression, Some observations on (A) D	59
characteristics of an electrically heated		STREAMLINES		Generation of crack propagation data on notched rotating beam specimens by	
model of a seven-rod cluster fuel ele-		Velocities and streamlines on a blade-to-		means of an interrupted stressing tech-	
ment, The (A)My	95	blade surface of a turbomachine, Pro-	aa	nique (A)F	57
STEPHANOFF, L. J.		grams for computation of (A)Jl STREAMS	66	Green's function for the stress-intensity	
Wear life expectancy of USA Standard B29. 1 roller chain (A)N	64	Contribution of photosynthetic reaeration		factors of edge cracks and its applica-	57
STERILIZERS AND STERILIZING		to total reaeration of the Passaic River		frowth mechanism of lenticular carbides	
Electrolytic water sterilizerJe	48	(A)S	80	in cyclically stressed 52100 steel, A	
Sterilizing the packaged productJa	34	Cost of industrial and municipal waste		study of the (A)0	85
Ultraviolet sterilization of water and its		treatment in the Maumee River basin	79	High-frequency stress waves propagating	
relation to maintaining aquatic organ- ism (A)Je	59	Deposition of small particles from tur-	10	in bars and plates, Photoelastic study of	65
STERN, ARTHUR S. (editor)	00	bulent streams, On the (A)N	67	How thickness and material properties in-	-
"Air Pollution" (BR)Jl	73	Field testing of aerators in waste treat-		fluence thermal shock stresses in flat	
STERNBERG, E.		ment plants (A)	80	plates and cylinders (A)Ag	68
Diffusion of load from a transverse ten-		in Raritan River basin in New Jersey		Impulsively loaded elastic-plastic beams, Approximate solutions for (A)Je	66
sion bar into a semi-infinite elastic		(A)S	79	Influence of Bauschinger effect on reverse	11
sheet, On the (A)Je STEUR, WILLIAM R.	65	Methods and procedures for testing sur-	70	yielding in thick-walled cylinders (A)	-
Named director of engineering, Sargent &		face aerators (A)S Optimization of a class of river aeration	79	Interpreting laboratory stress-corrosion	60
Lundy, Chicago, IllN	107	problems by use of multivariable dis-		cracking data in materials selection (A)	
STEVENS, S. J.		tributed parameter control theory (A)		Ag	69
Performance of two annual diffusers, The		S	79	Limit analysis of plates, Numerical meth-	
effect of inlet conditions on the (A)		Oxygen dynamics and economic growth in the Millstone River (A)S	80	ods for the (A)Je Longitudinal wave propagation in a cir-	66
STEVENS INSTITUTE OF TECHNOLOGY	63	Phenolic compounds in New Jersey's		cular bar loaded suddenly by a radially	
Alumni Association elects George F. Ha-		streams, Occurrence and distribution of		distributed end stress (A)N	74
bach presidentAg	104	(A)S	80	Low-cycle fatigue behavior under biaxial	-
Stevens grads get top \$N	86	Specification and selection of mechani- cal aeration equipment (A)	80	strain distribution (A)F	58 86
"Turn On" by learningD	93	Value of water in industry, The (A)S	79	Measuring residual stresses in metalsMy Metal under stressF	41
STEWART, E. E.		Water resource development of Mullica		Photoelastic stress exploration for pre-	41
Transfer functions for helical springs	66	River basin, New Jersey (A)S	80	liminary design (A)Mr	70
STEWART, W. L.	00	STRECKERT, J. H.		Plane waves due to combined compressive	
Advanced concepts to increase turbine		Performance of a wick-limited heat pipe (A)	66	and shear stresses in a half space (A)	-
blade loading (A)F	58	STREIMER, I.	00	Relaxation of residual stresses in auto-	80
STIEG, ROBERT H.		Ergonomic considerations in undersea sys-		frettaged cylinders, Investigation of the	
Named special assistant to director of engineering at Mack Trucks, Inc., Allen-		tems engineering (A)Je	59	(A)F	57
town, PaJe	99	STRESSES AND STRAINS. See also FRACTURE		Rolling element fatigue and macroresidual	
STIFFNESS		Alloy steel dynamic strain-aging and	80	stress (A)0	86
Optimum stiffness of externally pressur-		notch brittle fracture (A)F Axisymmetric plane stress problems in	58	Shallow arches on elastic foundations sub- jected to dynamical loads, On the final	
ized thrust bearings in turbulent re-		anisotropic plasticity (A)0	80	states of (A)Je	66
gime (A)D	62	Axisymmetric stress field around spher-		Shock propagation in a strain-hardening	
STIRES, WILLIAM H.		oidal inclusions and cavities in a trans-		material (A)0	82
ObituaryMy	154	versely isotropic material (A)Je Behavior of nonlinear viscoelastic mate-	68	Simplified welded specimen for evaluation of low-cycle fatigue under compression	
STITES, J. G., JR. Catalytic-oxidation system for removing		rial under simultaneous stress relax-		(A)D	60
SO ₂ from flue gas, The (A)Mr	71	ation in tension and creep in torsion		Strain effect on EMF of silver iodide cells	
STODDARD, ROBERT J.		(A)Je	67	(A)Je	68
Elected president of Crosby Land Co., sub-		Biaxial residual surface stresses from grinding and finish machining 304		Strain energy release rate, The effect of yielding on the (A)F	57
sidiary of American Hoist & Derrick,		stainless steel determined by a new dis-		Strengthening glass and glass-ceramics	
St. Paul, MinnN	107	section technique (A)F	57		26
STONE, D. W.		Brittle rock failure under triaxial stress	60	Stress concentration around a furrow	
A-C static variable-frequence speed con-		(A)Je Contact stress between two-dimensional	68	shaped surface defect in rolling con- tact, An analytical study of the (A)	
trol (A)D	54	finite elastic bodies (A)N	74	tact, An analytical study of the (A)	62
STONER, M. A.		Diffusion of load from a transverse ten-		Stress concentration factors for U-shaped,	
Unsteady flows in natural gas piping sys- tems, Analysis and control of (A)F	61	sion bar into a semi-infinite elastic	ar	hyperbolic, and rounded V-shaped,	-
STOPPLE EQUIPMENT	31	sheet, On the (A)Je Ductile creep rupture of shells with strain	65	notches (A)	73
40-in. stopple equipment for emergency		hardening and time-dependent loading		Stress-corrosion cracking of AISI 52100 steel in turbine lubricant environments	
repair of pipelines (A)N	62	(A)Mr	71	(A)Ag	70
STORAGE. See also SOLIDS		Effect of mean stress and of mean strain in low-cycle fatigue of A-517 and A-201		Stress distribution and spring rates in a	
Controlled environment storage facility		steels (A)Ag	71	(A)Mr	69
				,	

				C W7 A	
STRESSES AND STRAINS (Continued)		SULFUR		SUTHERLAND, W. A.	
Stress induced diffusion and stress cor-		Low sulfur industrial fuel oils (A)Je	69	Pressure - suppression/gravity - flooding	63
rosion cracking (A)Ag	69	Monitor for sulfur in coalAg	53	containment system (A)Ap	00
Stress intensity factors for edge cracks in		Sulfur bondJl Sulfur content of coal, Facing up to the	00	Swanson, E. Potential of the molten salt reactor for	
rectangular plates with arbitrary load- ings (A)R	57	(A)Je	70	power generation (A)Ap	64
Stresses in orthopedic walking casts (A)	01	SULFUR DIOXIDE		Swarden, M. C.	
S	77	Capture of sulfur dioxide by limestone		Aerodynamic drag on vehicles in tunnels	
Stresses in wedges of cohesionless mate-		and dolomite, Basic factors in the (A)		(A)	75
rials formed by free discharge at the		D	58	SWARTZ, CHARLES H.	
apex (A)Ja	44	Catalytic-oxidation system for removing		Joins De Laval Turbine, Inc., as vice-	
Stresses near an oblique elliptical aperture		SO _s from flue gas, The (A)Mr	71	president and assistant group manager	
in a large plate, On the (A)Mr	72	Sulfur dioxide removal from a pilot mov-	**		114
Strongest circular arch, The a perturba-	00	ing grate furnace stack gas (A)D	58	SWEARINGEN, J. S.	
Syntactic foams, The static strength of	68	Sulfur-dioxide removal from power plant		Vibrations in high-speed rotating machin-	
(A)D	66	stack gas by limestone injection plant-	58	ery, Experimental investigation of (A)	
Thermal stresses in railcar wheels, A	00	Trials of additives for sulfur-dioxide re-	00	·····	66
three-dimensional finite difference solu-		moval in industrial plants (A)D	58	SWEARINGEN, T. B.	
tion for the (A)Ag	72	SULFUR OXIDES		Thermal entry for low Reynolds number	
STRETCHING		Alkalized alumina system for SO, re-		turbulent flow (A)F	62
Effects of combined shearing and stretch-		moval, The: design and operation of a		SWED, R. J.	
ing in viscoelastic lubrication (A)D	61	continuous pilot plant (A)F	60	Yards Creek pumped storage project, Ex-	
STRIMBECK, DONALD		New controls for SO ₂ Ag	80	periences on startup and trial operation	
Electricity from coal: the cycles		Sullivan, J. J.		at (A)	04
Part 3Ja	24	Track quality index, Development and use		SWEENEY, FRANCIS J.	
Strings		of a (A)Ag	72	Appointed manager of newly created staff	
Load and stability analysis of tubular		Sun, C. T.		engineering section, Power Plant En- gineering Div., Commonwealth Associ-	
strings (A)N	64	Vibrations of a laminated body, On the		ates, Inc., Jackson, MichAp	97
STRIPS		(A)Je	67	Swenson, Paul F., Jr.	
Free, periodic, nonlinear oscillation of an		Sunamoto, D.		Protecting the public (C)	91
axially moving strip (A)	81	Gas turbine blade materials after a long			-
STRUCTURES AND STRUCTURAL MATERIALS		term of service, Metallurgical studies	-	SWIRL	
Advanced structural design analysis tech-		on (A)	60	Boundary-layer velocity distribution in	
niques, Survey of (A)S	67	SUNDERLAND, J. E.		turbulent swirling pipe flow, The (A)	70
Building block approach to structural dy-	63	Melting or freezing of finite slabs (A)		Incompressible turbulent swirling flow in	
namics (A)Ag Engineering practice for prestressed con-	00	Му	98	stationary ducts, Analytical investiga-	
crete structures in nuclear containment		SUPERCONDUCTIVITY		tions of (A)0	82
applications (A)Ap	63	Power at -452 F0	66	Progressive waves moving through a cir-	
Maintenance-free roofS	56	Superconducting electric motorAp	50	cular pipe containing a rotating flow of	
Passively cooled containment structure,		Superconductivity temperature raised		water with an axial eavity (A)0	73
The design of a (A)Ap	62	againAp	44	Progressive waves on swirling cavity flow	-
STUART, MILTON C.		World's largest superconducting magnet	46	in a circular pipe (A)0	73
Received 1968 Herschel Smith award of			40	SWITCHES	
Frankford branch, Scientific Research		SUPERSONIC TRANSPORT		Rolamite "tilt" switchS	60
Society of AmericaJe	99	Engine inlet on the 747, The (A)Jl	64	SWITCHING	
STUDENMUND, ROBERT R.		SUPERSONIC TRANSPORTATION. See JETLINES	ts;	Switching in digital fluid amplifiers (A)	
Appointment manager of Leeds & North-		TRANSPORTATION, SUPERSONIC		0	77
rup's district office in Tulsa, OklaAg	104	SURANA, K. S.		Switching process in bistable fluid ampli-	
STUDLEY, G. L.		Optimum design of rotating disks (A)S	73	fiers, The (A)0	77
Economic truths (C)0	93		10	SWITICK, D. M.	
STUTZ, H.		SURDY, CHARLES J.	100	Turbulent velocity distribution in a rod	
Phenolic compounds in New Jersey's		ObituaryD	100	bundle (A)My	
streams, Occurrence and distribution of	700	Suresh, N.		Symmetry	
(A)S	80	Pressure signal generator for fluidic re-	-	Symmetry of multiply separated positions	
STYRIKOVICH, M. A.		search (A)0	79	in coplanar motion, Conditions for (A)	
Hydrodynamic character of burnout in		SURFACES			
subcooled liquid boiling in channels, On	70	Effects of component geometry and sur-		Symposia. See Meetings	
STYS, Z. STANLEY	70	face texture on bearing performance	-		
Olympus powered Brown Boveri gas tur-		(A)	70	Systems	
bine machinery of the Finnish Navy 700		Exact transient response of an elastic half		Mean-square repsonse of simple mechan-	
ton gunboat, Experience with the (A)		space leaded over a rectangular region	74	ical systems to nonstationary random	
I	69	of its surface (A)N Influence of road-surface texture on tire-		excitation (A)0 Theory of distributed systems (A)0	76
SUBLIMNOS-I. See VEHICLES, UNDERWATER	-	road interface traction limits (A)D	61		10
SUBMARINES AND SUBMERSIBLES. See		Natural convection local heat transfer on		Systems Analysis	
VEHICLES, UNDERWATER		constant-heat-flux inclined surfaces		Can systems analysis solve the transpor- tation problem?	14
SUBMERGENCE		(A)N	71	Public interest? (C)N	78
Critical submergence for vortexing in a		Optimum arrangement of rectangular fins		Operations research, decision theory, and	
vertical cylindrical tank, Experimental		on horizontal surfaces for free-convec-	-	the changing nature of engineering de-	
investigation of (A)O	76	tion heat transfer (A)N	70	sign (A)0	
Sucec, J.	10	Sensitive tiltmeterF Transient excitation of an elastic half	43	Systems Design	
Trajectory and spreading of a turbulent		space by a point load traveling on the		System planning and optimum load dis-	
jet in the presence of a crossflow of ar-		surface (A)N	75	patch for nuclear power plants (A)Ap	
bitrary velocity distribution (A)Jl	63	Surgery		Systems Engineering	
Suckow, Frederick G.		Compressed air in surgery and patient		Ergonomic considerations in undersea sys-	
ObituaryF	89	care, Application of (A)0		tems engineering (A)Je	
Suction		Suspension Systems		Stability of continuous dynamic systems	
New look at plunger pump suction re-		Transit propulsion unit suspension, A new		with parametric excitation (A)0	80
quirements, A (A)N	63	- proved on Northeast Corridor high-		Systems engineering: the role of reli-	
Turbulent flow, heat transfer, and mass		speed test cars (A)Ag	72	abilityJi	10
transfer in a tube with surface suc-		Susukida, H.		Systems, Linear	
tion (A)N	71	Gas turbine blade materials after a long		Multi-parameter optimum in linear dy-	
SUCZEK, ROBERT		term of service, Metallurgical studies		namical systems (A)A	
ObituaryS	116	on (A)Jl		New technique for identifying linear sys-	
SUDAREY, A. V.		SUTERA, S. P.	5.7	tems, A (A)Aj	59
NZL gas turbine combustion chamber (A)		Dynamic response of pulmonary airways		Systems, Nonlinear	
Ag	68	to imposed pressure oscillations (A)		Equivalent nonlinear system approach to	
SUEZAWA, YOSHITADA		to imposed pressure oscillations (X)	67	dissipative dynamical systems, Applica-	
Double-notch creep rupture of 5 Cr-0.5 Mo		SUTEY, A. M.	10	tion of an (A)	73
steels (A)F	57	Waste heat dissipation from artificial		Identification of a class of nonlinear con- trol systems (A)	
Suns, Guy H.		hearts—engineering constraints (A)		Nondimensional plots in nonlinear vibra	
ObituaryN	111			tions (A)	
-					

SZEKELY, I.		Taxation		Synthesis of a pure-fluidic temperature	
Spatial mechanisms with several degrees		Hooray!J!	83	Temperature dependent expression for the	104
of mobility by means of transmission functions, A kinematic investigation of		Tax exempt organizationsJe	85	thermal diffusivity of solids, A tech-	
(A)Ja	46	TAYLOR, DON H. Appointed sales manager, air pollution		nique to determine a (A)Je	62
SZENASI, F. R.		control equipment branch of Pangborn		Temperature distributions in heat pipe	0.00
Analytical techniques for evaluation of		Division, Carborundum Co., Hagers-		wicks, Analysis of (A)	01
compressor-manifold response (A)N	63	town, Md0	125	characteristics of an electrically heated	
SZERI, A. Pivoted plane pad bearings: a variational		TAYLOR, DONALD		model of a seven-rod cluster fuel ele-	-
solution (A)D	64	Appointed executive vice-president, Nord- berg Mfg., Milwaukee, WisO	125	ment, The (A)	30
SZEWALSKI, ROBERT		TAYLOR, EDWARD STORY		bundles, Analysis of (A)Je	62
Apollo 11 (C)0	94	Elected ASME FellowD	98	TENSILITY	
SZIRTES, T.		TAYLOR, JOHN PAUL		Prevents undercutting in tensile speci-	
Overall fuel economy of an internal com- bustion engine, An index to character-		Beauty of it, The (Ed)		mens	48
ize the (A)Ap	58	Underground line, The (C)Mr	75	Tension Tension	**
		TAYLOR-GOERTLER VORTEX		Behavior on nonlinear viscoelastic mate-	
		Taylor-Goertler vortices and their effect on heat transfer (A)	88	rial under simultaneuos stress relaxa-	
-		TECHNICAL DIGEST	00	tion in tension and creep in torsion (A)	
		Ja 42; F 52; Mr 62; Ap 52; My 94;		Calculation of allowable maximum casing	01
Tanarana W		Je 58; Jl 58; Ag 58; S 66; O 72;		temperature to prevent tension failures	
TABAKOFF, W. Heat transfer by a square array of round		N 60; D	54	in thermal wells (A)N	63
air jets impinging perpendicular to a		TECHNICAL INSTITUTES		Cavitation at the ends of an elliptic in-	
flat surface including the effect of		Increasing place of the technical institute	70	clusion inside plate under tension (A)	66
spent air (A)Jl	58	graduate, The (A)	72	Nonlinear viscoelastic solid in uniaxial	00
TACCHELLA, ADOLPH A.		TECHNICAL LITERATURE. See LITERATURE		tension, An experimental study of a	
Receives ASME 55-year membership cer- tificate	108	TECHNICIANS		(A)N	73
TAFT, M. I.	100	Changing support role of the technician in engineering (A)S		Techniques for measurement of winding tension in ring twisting (A)S	76
Computer-aided systems approach to per-		Increasing place of the technical institute		Tightening torque versus bolt tension	
sonnel administration, On a (A)Ap	57	graduate, The (A)S		relationships (A)S	70
TAI, C. L.		TECHNICON CORP.		TERRY, W. M.	
Longitudinal oscillation of a liquid-filled,	76	Science center opensAg	80	Effects of coatings, containing spatially	
elastic, cylindrical-conical tank (A)Ag TAKAHASHI, Y.	60	TECHNOLOGY		stabilized polar liquids, on stress corro-	
Hazards in pneumatic fluidic circuits (A)		ASEE to study engineering technology		sion and fatigue resistance on metals (A)	69
Ар	61	Atomic power — who looks after public		Tesar, D.	-
Optimal state variable feedback with	***	safety?Je		Symmetry of multiply separated positions	
bounded gains (A)Ap TALLIAN, TIBOR E.	58	Protecting the public (C) 8 82; 0		in coplanar motion, Conditions for (A)	
Named vice-president, research, SKF In-		Conflicts in engineers' responsibilities —	107		66
dustries, Inc., Philadelphia, PaJe	99	personal decision (A)My Conflicts in engineers' responsibilities:		Tessier, K. C.	
TAMNY, SIMON		public issues oriented information by		Fuel additives for the suppression of	
Appointed executive vice-president, Proc-		independent groups of experts (A)My	107	diesel exhaust odor and smoke Part I: Proposed mechanism for smoke	
ess Plants Corp., College Point, N. Y.	96	Forecasting of technology in industry, A		suppression (A)Ap	58
TAN, ELPIDO V.	90	framework for (A)Ap Keeping technology human (Ed)	25	Part II: Field trials (A)Ap	57
Appointed engineer I, cost & operations,		Now generation, TheJ	82	TESTING AND TEST EQUIPMENT	
Esso Standard Eastern, Manila, Philip-		Operations research, decision theory, and		ND testing for corrosion pitting0	60
pines0	126	the changing nature of engineering de- sign (A)		Plastics life spanMy Rolling bearing endurance testers, Design	81
Taney, A. R.	-	Prometheus unbound		of (A)	74
General interest items (C)Ap TANG, Y. S.	68	Regional development	103	Submarine rescue vesselJe	44
Vapor velocity limit in a sodium heat pipe,		Responsibilities of engineers (A)My		Tevis, R. L.	
Experimental study of (A)0	87	Technical innovation — key to manufac- turing success		Lease financing, The functions of (A)Je	7
TANGER, G. E.		Technology and society		Texaco, Inc.	
Pool boiling heat transfer from teflon-	ne	Part 1: Public interest, TheA		Texaco to use californium-252S	9
coated stainless steel (A)My Temperature dependent expression for the	96	Public interest — first priority in engineering design? (A)		TEXTILES	
thermal diffusivity of solids, A tech-		Part 2: Social responsibilities, TheM		Computers in the textile industry, The	4
nique to determine a (A)Je	62	Social effects of technology (C)N	79	future of (A)Ja Design of a shuttle accelerometer (A)S	7
TANKS AND TANKERS		Technology and society (C)J		Fundamentally new cotton spinning sys-	
Critical submergence for vortexing in a vertical cylindrical tank, Experimental		Tomorrow's technology: the managemen outlook (A)A		tem, Progress toward a (A)Ja	4
investigation of (A)0	76	Wanted: a mechanism information re		New developments in circular knitting machine construction (A)S	7
Gas turbine propulsion for LNG tankers		search centerJ	1 30	Seam puckering as a mechanical insta-	
(A)	66	TEKTITES		bility phenomenon (A)S	7
Longitudinal oscillation of a liquid-filled, elastic, cylindrical-conical tank (A)Ag	60	Tektites from Tycho	53	Techniques for measurement of winding	
Plastic storage tanks, Analysis and de-		Telephones		tension in ring twisting (A)S	7
sign of (A)Ja	42	Italy-Spain cableJ		THACKREY, JAMES D.	7
Turbomechanical transmissions for pro- pulsion steering of track-laying vehicles		New phone for deaf and blind	38	Elusive professionalism (C)	
(A)Jl		Telescopes Hydraulic systems for a 140-ft radio tele		Thal-Larsen, H.	
TANNER, R. I.	00	scope (A)		Hazards in pneumatic fluidic circuits (A)	
Effects of combined shearing and stretch-		Television	-	Ар	6
ing in viscoelastic lubrication (A)D		Closed circuit TV guides welding arcM	r 50	THAYER, GORDON B.	
TANTALUM		TEMPERATURE TECHNOLOGY		Elected ASME FellowJe	10
First tantalum from N.AN	85	Effect of temperature gradients on th		THAYER, PAUL W.	
TARANTINE, F. J.		propagation of elastoplastic waves (A		Obituary0	12
Water-hammer attenuation with a tapered		Fluidic turbine temperature sensors in ga		THERMAL TECHNOLOGY	
line (A)F	61	turbine engines, Feasibility study of		Thermal profile of MarsAg	8
Tarassov, V. J. Optimization of a class of river aeration		(A)	II 61	THERMODYNAMICS	
problems by use of multivariable dis-		High temperature alloy	F 45	Application of irreversible thermody-	
tributed parameter control theory (A)		High-temperature bearing lubricantsM High temperature sensors for gas turbine		namics to heat and mass transfer in gas suspension (A)	
4.0000000000000000000000000000000000000		(A)		Gas turbine heat recovery boiler thermo-	
TATLOW, RICHARD H., III		High temperature wastewater treatmer	it	dynamics, economics and evaluation (A)	
Receives second annual PEPP Award		process, A (A)		Propage thermodynamic propagty cons	6
(Professional Engineers in Private	404	Superconductivity temperature raise	- 44	Propane thermodynamic property equa-	

THERMODYNAMICS (Continued)		THURSTON, G. A.		Topouzian, Armen	
Thermodynamic effects on desinent cavitation on hemispherical nosed		Continuation of Newton's method through		16:1 pressure ratio gas turbine recupera-	-
bodies in water at temperatures from		bifurcation points (A)N THUSE, E.	75	TORCHES	99
80 to 260 deg F (A)	74	Electric - hydraulic control system for		Superior propane torch	65
Thermodynamic properties of carbon di- oxide in the range 0-150 deg C, Com-		underwater Christmas trees (A)N	60	TORDA, T. P.	
putation of (A)	68	THYRISTORS		Unsteady laminar incompressible bound-	
Thermodynamics, adhesion, and sliding		Thyristor-driven drilling rigMy Tibby, R. B.	93	ary layer flows with cylindrical sym- metry, Numerical investigation of (A)	
friction (A)	64	USC range at Santa Catalina Island (A)			74
chanics-adiabatic conditions (A)O	81		69	Torque	
THERMOPLASTICS		Tichler, J. W.		Aerodynamic torque converter for gas	
Injection molding of thermosetting mate-		Resistance against cavitation erosion of 14 chromium steels (A)D	61	Development of a pneumatic sensor for	66
rials (A)	69	Tidwell, D. R.	01	measuring the torque of instrument ball	
THIELBAHR, W. H.		Developments in marine drilling riser		First aerodynamic torque converter for	84
Heat transfer to the highly accelerated		technology (A)N	62	gas turbines, Design and test of the	
turbulent layer with and without mass		TIEDE, D. D. Gas turbine noise from an industrial ve-		(A)Ag	68
addition (A)N	67	hicle, Measurement and control of (A)		Gyroscope bearing cross-torque (A)D Multiple-disk brakes and clutches during	65
Operations research, decision theory, and			62	engagement, The interfacial load dis-	
the changing nature of engineering de-		TIEN, R. H.		tribution and total transmitted torque	-
sign (A)O THIRUMALAISAMY, S, N.	79	Effect of density change of the solidifica- tion of alloys (A)N	70	of (A)Mr Tightening torque versus bolt tension re-	70
Effects of transpiration cooling on turbine		TILLINGHAST, JOHN		lationships (A)S	70
stator blade aerodynamics, Experi-		Power systems: the place of hydro and		TORQUEMETERS	
mental investigation of the (A)Jl	64	pumped storage	24	Noncontacting torquemeters utilizing	
THOMAS, CLARENCE V.		Time Metric, metric (C)My	110	magnetoelastic properties of steel shafts (A)Jl	67
Obituary	111	Ting, T. C. T.	110	Torres, M. R.	
"New" plant maintenance engineer (as		Initial slope of elastic-plastic boundaries		Expected equivalent damping under ran-	
viewed by one in transition), The (A)		in combined longitudinal and torsional		dom excitation (A)Ag	64
TN	65	wave propagation, On the (A)	80	TORSION Behavior of nonlinear viscoelastic mate-	
THOMPSON, ALFRED C. Appointed manager of subsidiary and new		and shear stresses in a half space (A)		rial under simultaneous stress relaxa-	
products development section in Corpor-		0	80	tion in tension and creep in torsion (A)	-
ate Product Department at Riley Stoker		Wave-front analysis in composite materials (A)	74	Numerical comparisons in elastic-plastic	67
THOMPSON, BRUCE	103	TINKER, JAMES BATES		torsion, On (A)Je	65
Appointed marketing manager of EMR-		ObituaryAg	108	Torsional properties of wire rope (A)O	79
Hatboro, Hatboro, PaS	113	TIPPETTS, T. B.		TOTTEN, HAROLD W.	***
THOMPSON, G. E.		Optical study of a fluidic temperature sensor (A)Mr	63	ObituaryN Townsend, D. P.	111
Kenai (Alaska) LNG plant design (A)	-	TIRE INDUSTRY SAFETY COUNCIL	00	Elastohydrodynamic lubrication of a spin-	
X	60	Tire Industry Safety CouncilAg	80	ning ball in a nonconforming groove	
THOMPSON, H. A.		Tires		(A)0	88
Fatigue failures induced in heat ex- changer tubes by vortex shedding (A)		Giant presses for curing giant tires (A)		Townsend, Robinson W. Obituary	111
N	60	Influence of road-surface texture on tire-	65	TRABANT, EDWARD ARTHUR	***
THOMPSON, J. GEORGE H.		road interface traction limits (A)D	61	Elected to board of directors, Atlas Chem-	
Elected ASME FellowAp	100	Infrared tire testN	51	ical Industries, Wilmington, DelO	128
THOMPSON, MICHAEL P.		TIRUNARAYANAN, M. A.		TRACING MACHINE	
Two types or resonance in intake tuning, The (A)	75	Free convection heat transfer from verti- cal isothermal cylinders with transverse		Contour tracing machineN TRACTION	•
THOMPSON, R. A.		curvature effect (A)N	73	Influence of road-surface texture on tire-	
Chatter vibrations, The modulation of		TISCHER, R. G.		road interface traction limits (A)D	61
(A)My	102	High temperature wastewater treatment process, A (A)Je		TRACTORS Cushion hitch, The: a vibration-absorber	
Gear diagnostics and wear detection (A)	60	TITANIUM	•	for tractor-scrapers (A)Ag	55
THOMSEN, E. G.		Fatigue behavior of titanium castings		TRAILERS	
Axisymmetric extrusion with experiment,		(A)	62	Live-floor trailer self-loading/unloading	-
Comparison of two complete solutions in		Titanium castings in gas turbine engines, The potential of (A)	62	system (A)D	50
Eutectic alloy of Pb and Sn, Some extru-	102	Toda, Kenji		TRAINING ASEE to study engineering technology	
sion studies of the (A) My	101	Effects of sound on jets and flueric de-		education	- 80
Plastic tensile instability criteria, On the	103	vices, A discussion of the (A)Ag TODD, A. C.	90	Hard-core unemployed, Possibilities of on-	-
THOMSEN, ERICH G. (reviewer)	.00	Critical porosity of free flowing solids,		the-job training of the (A)0 Lifelong education for engineersJe	54
"Mechanische Umformtechnik" (BR)O	95	The (A)Ja		Wanted: retired engineers	
THORLEY, A. R. D.		TOEBES, G. H.		To teach or be trained for challenging careers in engineering educationJe	71
Pressure transients in hydraulic pipelines		Unsteady flow and wake near an oscillat- ing cylinder, The (A)Je		White House fellowsN	98
(A)P	61	TOLERANCE	-	TRAINS. See RAILROADS; TRANSPORTATION;	
THORPE, J. F. Kinematics of electrochemical machining.		Distortion tolerance — by design instead	-	VEHICLES, RAILROAD	
On the (A)My	103	of by accident (A)Ag	69	TRANSDUCERS	-
THROTTLING		Tolle, G. C. Whirl in a finite journal bearing with a		Fluidic transducerJe 49; O Miniature pressure transducersAp	31
Improvement of pump performance by im-		continuous lubricating film, An analy-		Multicomponent force transducer for use	
peller eye throttling (A)	72	tic solution for (A)Ag		on rocket sleds (A)Ag	61
Throttling capillary for Joule-Thomson measurements, A (A)Je	60	Tomko, Michael		Scratch-gage force transducer	4
THUMIN, A.	-	ObituaryN	111	Hurdle barrier to artificial heartAp	41
Power transfer device for mechanical		TOMLINSON, CHARLES S.	100	TRANSIT SYSTEMS	
hearts, A (A)Ap	55	Tong. L. S.	102	Centrally controlled subwayF	5
THURMAN, A. L.		Void fractions in subcooled flow boiling		Transit propulsion unit suspension, A new — proved on Northeast Corridor	
Free, periodic, nonlinear oscillation of an axially moving strip (A)	81	(A)N		high-speed test cars (A)Ag	7:
Nonlinear oscillation of a cylinder con-		TOGLS AND TOOLING	-	Transition	
taining a flowing fluid (A)Ag	64	Body tooling via computer	51	Inverse transition in radial diffusers (A)	
Thurman, Astor L.		Diverters for T.F.L. tools (A)	92	The year arrows	-
Named vice-president and general man- ager of the Western div., Kennedy Van		TOOMEY, THOMAS C.		TRANSLATIONS National translations center at John Cre-	
Saun Corp., Danville, PaN	107	ObituaryN	111	rar library	12

TRANSMISSIONS		ing, Pennsylvania State University,		Lehigh and Drexel were skipped (C)	
Dual mode hydromechanical transmission		Middletown, PaN	107	т о	67
as applied to gas turbines (A)	67	Truss, K. J.		Tuncel, O.	
765-kv transmission lineD	48	Effects of some gaseous environments on		Diakoptics in the determination of tur-	
Transport		the creep of a stainless steel (A)Ag	70	bine bucket frequencies by the use of	
KSC: Spaceport for the moon		TSAI, STEPHEN W.		perturbations, An application of (A)	
Part 3: Gentle mammoth, TheAg	35	Named chief scientist of Air Force Mate-		Ag	66
Moon mission completed — and recorded		rials Laboratory at Wright-Patterson		Turbines	
(Ed)	25	Air Force Base, OhioAp	98	Advanced concepts to increase turbine	
Nongray radiative transport in cylindrical		Tsao, K. C.		blade loading (A)F	58
medium (A)	71	Investigaton of face-milling tool tempera-		Advanced steam turboalternator for nu-	
TRANSPORTATION. See also TRANSIT SYSTEM		tures by simulation techniques (A)My	102	clear applications, Design of an (A)Jl	64
Advanced passenger trainN	59	TSE, F. S.		Aerodynamic torque converter for gas	-
ASME members appointed to U.S. Depart-		Application of controlled mechanical im-		turbines (A)Ag	68
ment of Transportation's Technical		pedance for reducing machine tool vi-	co	Allison model 501-K14 gas turbine 1000-	-
Pipeline Safety Standards Committee	103	brations (A)Ag	63	hr saltwater ingestion test (A)Jl Analytical investment of fully developed	62
Bridge inspectionAp	75	Tsu, T. C.		laminar flow with heat transfer and	
Can systems analysis solve the trans-		Letdown, A (C)Ja	48	variable fluid properties in a rotating	
portation problem?	14	TSUKIZOE, T.		tube (A)P	59
Public interest? (C)N	78	Influence of surface roughness on the		Bending - torsion mode of a rotating	-
Development of grease-lubricated tapered		mechanism of friction, The (A)D	63	tapered-twisted turbomachine blade (A)	
roller bearings for high-speed rail		TUBES AND TUBING. See also PIPES AND		P	58
transportation (A)D	65	PIPING		British gas generators for gas turbines,	
High-speed trainsD	79	Aerodynamic stability of a cross-flow		Developments in (A)Jl	69
Hovertruck0	70	type finned tube heat exchanger, An in-		Cavitation tests on hydrofoils designed	
Letdown, A (C)Ja	48	vestigation of the (A)My	98	for accelerating flow cascade:	
Monorail for Expo '70Je	57	Analytical investment of fully developed		Report 4 — Three profiles designed	
New transportation system concept for urban, industrial and bulk material ap-		laminar flow with heat transfer and		for high head Kaplan turbine (A)F	61
plications (A)	54	variable fluid properties in a rotating	E0.	C. I. T. sensors — a design evolution (A)	65
Nuclear EEL, The	23	tube (A)	59		-
Nuclear EEL, The: a new concept in		fully developed laminar flow in hori-		Closed Brayton cycle system, An analog	62
ocean freight transportation (A)Je	58	zontal tubes, Analysis of (A)N	71	computer simulation of a (A)	65
Oil is where you find it: old adage yields		Fatigue failures induced in heat ex-		Commercial aircraft propulsion systems,	00
new problems (U.S., USSR face tough		changer tubes by vortex shedding (A)		Design requirements and objectives for	
transporting problem)S	88	N	60	(A)JI	67
Pod full of passengersAp	45	First approximation for flow through a		Condition monitoring (A)Jl	68
Problems of a historic voyageS	61	porous tube, A (A)0	73	Cooled turbine efficiency, Systematic	
Quadri-current locomotiveS	64	Forced and self-excited oscillations in pro-		evaluation of (A)Jl	67
\$600 million airportD	79 103	pellant lines (A)0	75	Correlation of gas turbine exhaust	
Smoke emissionO Taking the hiking out of flyingF	40	Glass-lined pipe	14	silencer performance in the laboratory	-
TRENT, TOM L., JR.		(A)N	66	and in service (A)F Correlations of turbine blade total-pres-	59
	111	Laminar, transition, and turbulent bound-	00	sure-loss coefficients derived from	
	***	ary-layer heat-transfer measurements		achievable state efficiency data (A)F	58
TREVINO, G.		with wall cooling in turbulent airflow		Dependance of power cycles' performance	•
Response of a structure moving through a random load field, On the (A)Ag	64	through a tube (A)N	69	on their location relative to the An-	
TREVISIN, R. F.	0.	Laminarization of turbulent flow in a cir-		drews curve, The (A)Jl	67
	53	cular porous tube with uniform mass		Design and application considerations ef-	
Sonicar (A)	aa	injection through the tube wall (A)N	67	fecting industrial gas turbine mainten-	
TRIBUS, MYRON		Linear dynamic modeling of flowing fluid		ance (A)Ag	68
Nominated by President Nixon as Assis- tant Secretary of Commerce for		lines (A)	77	Determining the performance of certain	
Science and TechnologyJe	99	Nuclear EEL, The	23	turbine stator blades from total pres-	
Такна, А. К.	20	Nuclear EEL, The: a new concept in ocean freight transportation (A)Je	58	sure surveys, Some measurement prob-	
Optimization techniques for shock and		Numerical predictions for circular tube	90	lems encountered when (A)	68
vibration isolation, Comparative study		laminarization by heating (A)N	67	Diffusion bonding Ti-6Al-4V for jet en-	-
of (A)Ag	65	Nusselt condensing coefficients for cir-		gine applications (A)JI	01
Optimizing linear vibration isolator sys-		cular tube fields (A)Je	62	Distortion tolerance — by design instead of by accident (A)Ag	69
tems subject to random input, A new		Peristaltic waves in circular cylindrical		Dual mode hydromechanical transmission	00
criterion for (A)Ag	66	tubes (A)N	73	as applied to gas turbines (A)Jl	67
TRI-STATE COLLEGE		Pressure attenuation in long rarefaction		Effects of transpiration cooling on turbine	٠.
Distinguished alumni award presented to		wave tubes (A)Je	61	stator blade aerodynamics, Experi-	
Victor J. JohnsonD	95	Small-amplitude frequency behavior of	-	mental investigation of the (A)Jl	64
TROST, R. J.		fluid lines with turbulent flow (A)O	76	Emulsified fuel and fuel control systems	
TAMPA - a computer program for the		Temperatures in molten reactor fuel tube		(A)Jl	65
analysis of reactor fuel and clad (A)		bundles, Analysis of (A)Je	62 47	Engine inlet on the 747, The (A)Jl	64
Ар	65	Tensile testing gripsAg	41	Engine usage indicator, The (A)Jl	68
TROWBRIDGE, ROY P.		Transition from supersonic to subsonic flow at low Reynolds numbers in a tube,		Estimating the combined performance of	
Elected ASME FellowAg	106	On (A)0	82	a turbine and exhaust diffuser, A	
Elected vice-president of USASIAp	97	Turbulent flow, heat transfer, and mass	40	method for (A)My	103
Named member of Metric System Study		transfer in a tube with surface suction		Evaluation of heat exchanger surfaces for	00
Advisory Panel established by U.S.		(A)N	71	use in gas turbine cycles (A)My Fan/compressor noise reduction (A)Jl	99 60
Secretary of CommerceD	95	Unsteady pressure differential in a capil-		Fatigue behavior of titanium castings (A)	00
Trucks		lary-tube gas viscosimeter, Approx-		ratigue behavior of titalium castings (A)	62
Industrial truck safety operation and		imate correction for (A)0	83	50,000-kw gas turbine plantS	65
maintenance of industrial trucks (A)		TUCKER, ALLEN E.		Fire in gas turbine heat exchangers, The	
Je	68	Appointed operations manager, Scovill		potential danger of (A)Il	64
New fork-lift truck	57	Fluid Power Division, Wake Forest,		First aerodynamic torque converter for	41
Safety aspects in the design of industrial		N.C0	125	gas turbines, Design and test of the	
trucks (A)Je	68	TUCKER, R. H.		(A)Ag	68
Steering a flexible railway truck on curved track (A)	73	Flow and filtration characteristics of wire		Flow through cascades of slotted com-	1
		cloth (A)My	104	pressor blades (A)	60
TRUMBULL, LAWRENCE R.	111	TUFFEY, T. J.		Flueric light-off detector (A)Jl	64
ObituaryN	111	Contribution of photosynthetic reaeration		Fluidic compressor bleed control, A (A)	
TRUMMEL, J. M.		to total reaeration of the Passaic River	94	Fluidic overspeed sensor for a power tur-	61
Times response of lower pair spatial		(A)s	80	bine (A)	62
mechanisms subjected to general forces	45	TUFRAM		Fluidic turbine temperature sensors in gas	32
(A)Ja	45	Steel-hard, slippery aluminumJe	52	turbine engines, Feasibility study of	
TRUMPLER, P. R.		TULLY, F. A.		(A)	61
Influence of internal friction on the sta-		Automated coal-handling system for	100	Gas bearings for small high-performance	
bility of high speed rotors with aniso-	go	mine-mouth power station (A)D	54	aircraft gas turbines, Feasibility of (A)	
tropic supports, The (A)Ag	58	TULLY, JOHN		·····	68
TRUNK, EDWARD V.		College antecedents of successful engi-		Gas turbine as a source of continuous	
Appointed assistant professor of engineer-		neers		precise power, The (A)Jl	61

URBINES (Continued)		Pump turbines for New YorkAg	57	Prediction of turbulent boundary layer	
Gas turbine blade materials after a long term of service, Metallurgical studies		Real gas effects in carbon dioxide cycles (A)	68	growth in adverse pressure gradients, A modified entrainment theory for the	
on (A)Jl	60	Reduction of noise and vibrations in a	51	(A)	76
Gas turbine blade vibration, Experimental investigation of — a review (A)Ag	67	hydraulic turbine (A)0	75	dimensional turbulent boundary-layer	
Gas turbine heat recovery boiler thermo- dynamics, economics and evaluation		Regenerators for industrial gas turbines, Design and experience with (A)Ag	68	flow (A)	76
(A)Ag	68	Representation of pump-turbine character- istics (A)O	76	viscous-turbulent, two-phase flow (A)	73
Gas turbine noise from an industrial vehicle, Measurement and control of (A)		Resonant beam tuned damping device,	10	Small-amplitude frequency behavior of	10
	62	A (A)F Response of axial flow compressors to	59	fluid lines with turbulent flow (A)O Turbulent heat transfer at low Reynolds	76
Gas turbine packages	64	intake flow distortion, The (A)Jl	62	numbers (A)N	73
(A)	66	Reversible pump-turbine, Index method for pumping operation of (A)F	61	TURNER, B. E.	
Gas turbine-reciprocating compressor drive, Dynamic analysis of a (A)F	59	16:1 pressure ratio gas turbine recupera-		New devices for managing the product development process (A)Ap	56
Gas turbine sea salt problems and solu-		Small closed Brayton cycle turbine- com-	69	TURNER, JOHN W.	
tions, History of (A)	61	pressor set for nuclear application, The		Re: metric systems (C)Ap TURNER, M. C.	68
water and heating plants, The (A)Jl Gas turbines: a modern approach to in-	65	redesign and simulated test of a (A)	68	Implantable valveless heart assist pump,	
dustrial power plant expansions (A)		Southland Paper's combined cycle power		An (A)Ap	59
Heat pipe gas turbine regenerators (A)	62	plant (A)	64	Thermal expansion of the workpiece dur-	
P	59	power (A)	66	ing turning (A)	102
Heat recovery steam generators, Some considerations in the design and ap-		Stress-corrosion cracking of AISI 52100 steel in turbine lubricant environments		Tuve, George Lewis Elected ASME Fellow	122
plication of (A)Jl	63	(A)Ag	70	TWISTING	
Heat transfer by a square array of round air jets impinging perpendicular to a		Superalloy development for aircraft gas turbines (A)	62	Techniques for measurement of winding tension in ring twisting (A)S	76
flat surface including the effect of spent		Supersonic axial compressor boost stages		TWOMBLY, ROBERT C.	
air (A)	58	for small gas turbines, The develop- ment of (A)	66	Promoted to position of general manager of large components division, Westing-	
gines for convertible rotary wing air-		Ten-year process gas turbine experience	67	house Electric Corp.'s commercial nu-	
craft (A)Jl High temperature sensors for gas turbines	58	Thermodynamic properties of carbon di-	01	clear power organization, Pittsburgh,	119
(A)Л	65	oxide in the range 0-150 deg C, Computation of (A)	68	Туков, R. J.	
Hot-corrosion-resistant alloys for marine applications, Progress in the develop-		Titanium castings in gas turbine engines,		Migrational properties for the steady	98
ment of (A)	61	The potential of (A)	62	forced vaporization of water (A)My	90
How thickness and material properties in- fluence thermal shock stresses in flat		jet in the presence of a crossflow of		per Mr. Black brished of professional for	
plates and cylinders (A)Ag	68	arbitrary velocity distribution (A)Jl Turbine blade cooling, Some aerodynamic	63	of all and an area and the	
Impingement cooling of concave surfaces with lines of air jets (A)P	58	aspects of (A)Jl	60	Name of the second	
Instrumentation used to define perform-		Turbine compressor set in the closed cycle (AK process) system, Optimization of		Uchiyama, Shoichi Longitudinal oscillation of a liquid-filled,	
ance of small size, low power gas tur- bines (A)Ag	68	the (A)Jl	66	elastic cylindrical-conical tank (A)Ag	60
Integration of control and fuel system components today and tomorrow (A)		Turbine-speed fuel pump for small gas- turbine engines, A (A)	66	Udall, Humphrey N. Chosen "man of the year" by AMF	
components today and tomorrow (A)	66	Turbomechanical transmissions for pro-		Thermatool, Inc., New Rochelle, N.Y.,	
Introduction to the JT15D, An (A)Jl Material characterization results for a	69	pulsion steering of track-laying vehicles (A)Jl	63	for outstanding accomplishments dur- ing 1968 as chief mechanical engineer	
selected graphite fiber/epoxy compos-		Uncertainty analysis in steam turbine		ing 1908 as chief mechanical engineer	99
ite (A)	68	testing: a report by ASME Perform- ance Test Code Committee No. 6 on		UEHLING, DONALD E.	
cycle turbo-alternator, The (A)Jl	68	steam turbines (A)My	106	Fluidic overspeed sensor for a power tur- bine (A)	62
Metal matrix composites, Characterization of (A)	62	Unique application of gas turbines in a coke and coal chemical plant, A (A)		Ultrasonics	
Multi-purpose fuel - problems that we		Ag	68	Subterranean leak locatorJe Underdeveloped Countries. See Develop	45 PING
face (A)	68	Unsteady flow phenomena in rotating centrifugal impeller passages (A)Jl	63	Countries	2110
sign and development of a (A)Ag	68	Utilities: scheduling maintenanceJa	20	UNDERWATER TECHNOLOGY. See also VEHIC	CLES,
Noncontacting torquemeters utilizing magnetoelastic properties of steel shafts		Velocities and streamlines on a blade- to-blade surface of a turbomachine,		Underwater	
(A)Jl	67	Programs for computation of (A)Jl	66	Aquatic research	84
Non-simple equilibrium aspects in axisym- metric turbomachine flow theory, Some		Vibration amplitudes of compressor blades		Stream	100
(A)	60	resulting from scatter in blade natural frequencies (A)	59	depths, Design of (A)	69
Northwest Hydrofoil Line's hydrofoil ship Victoria gas turbine main propulsion		Vibration and noise characteristics of an		Challengers of the silent depthsMy Countermeasures to dangerous sharks	75
system (A)	69	aircraft-type gas turbine used in a marine propulsion system (A)	60	(А)Л	69
ture reactor and helium turbine (A)		TURBOMACHINERY		Critical pressure of spherical shell acry- lic windows under short-term presssure	
Nuclear-powered turbine-generatorJl	64 56	Interaction of compressor-expander turbo- machinery in chemical processes (A)		loading (A)F	56
NZL gas turbine combustion chamber		Je	61	Deepstar family of vehicles, Design characteristics of the (A)	54
Olympus powered Brown Boveri gas tur-	68	Non-simple equilibrium aspects in axisym-		Developments in marine drilling riser	
bine machinery of the Finnish Navy		metric turbomachine flow theory, Some	60	technology (A)	62
700 ton gunboat, Experience with the	69	Velocities and streamlines on a blade-to-		periment, development problems and	**
Penetration and mixing of air jets di-	40	blade surface of a turbomachine, Pro- grams for computation of (A)Jl	66	Diverters for T.F.L. tools (A)N	58 60
rected perpendicular to a stream, The	59	TURBULENCE		Electric-hydraulic control system for underwater Christmas trees (A)N	60
Practical holographic mode shapes on tur-		Boundary-layer velocity distribution in		Ergonic considerations in undersea sys-	
bine blades (A)Ag	64	turbulent swirling pipe flow, The (A)	72	tems engineering (A)	59 53
Process plant application of an aircraft- type gas turbine (A)	64	Incompressible turbulent swirling flow in stationary ducts, Analytical investiga-		High pressure test chambers: State-of-	
Processing problems in jet engines, Focus		tions of (A)0	82	the-art (A)	54
on (A)	68	Laminar, transition, and turbulent bound- ary-layer heat-transfer measurements		Manned submersibles, Design and opera-	
Coast Guard Hamilton class high en-	mil.	with wall cooling in turbulent airflow		tional performance of (A)F Measured pressure waves in water arising	55
durance cutters (A)	62	through a tube (A)N	69	from electrical discharges and detona-	
Propulsion systems for DDH-280 class gas turbine destroyers, Description of (A)		Optimum stiffness of externally pres- surized thrust bearings in turbulent		tion of small amounts of chemical ex- plosives, A comparison between (A)	
	62	regime (A)D	62	L	69

NDERWATER TECHNOLOGY (Continued)		Cool Personal Office		Ullilles	12.
Motion response and design of an under-		Coal Research Office		Automatic meter readingJe	84
water flotation mechanism (A)Jl	70	Coal-to-gas pilot plant	83		
Naval Ship Research and Development		Mines Bureau	00		
Center's ocean pressure laboratory,		Monitor for sulfur in coalAg	80		
The (A)F	55	Labor Statistics Bureau	-		
Nuclear EEL, TheN	23	By 1970: million engineersJl	82	The second section of the second section of the	
Nuclear EEL, The: a new concept in		Metrication for the United States			
ocean freight transportation (A)Je	58	Congress needs answersMy	12		
Ocean pressure test facilityD	46	Is it really necessary?My	14	VACHON, R. I.	
Ocean simulation laboratory, An (A)F	54	How Britain is doing itMy	16	Pool boiling heat transfer from teflon-	
Operation bottom-fixN	48	Canadian view, TheMy	19	coated stainless steel (A)My	96
Optimal-suboptimal guidance law for an	-	What are the options?My	22		90
undersea vessel, An (A)P	55	Metric — there and here (C)	71	Temperature dependent expression for	
Porpoise-shark relationship, The (A)Je	59	Moral considerations of the engineering		the thermal diffusivity of solids, A	
Pressure-balanced hydrazine fuel cell for	00	teacher involved in government research		technique to determine a (A)Je	62
		(A)S	71	VACUUM	
deep submersibles, Development of a	70	National Institutes of Health		Predicting gas flow rates in vacuum sys-	
prototype (A)	70	National artificial heart program, The		tems (A)Je	60
Pressure tanks for deep sea simulation	**	Je	20	Vacuum technology for Space Age0	64
facilities, The use and design of (A)F	54	National Medal of Science, 1968, to			
Scuba diver performance in an open ocean			151	VALENTIN, F. H. H.	
environment, Measurement of (A)Je	58	Navy		Screw conveyors and feeders, A study of	
Soil mechanics and foundations for ocean		AEC in ocean explorationS	90	factors affecting the performance of	
engineering purposes — present status		Distinguished civilian service award		(A)Ja	43
(A)JI	69	presented to Berger N. ShepardD	96	VALUE ENGINEERING	
Southwest Research Institute underwater		Submarine rescue vesselJe	44	Value control (A)S	87
engineering laboratory, The (A)F	56	Oil is where you find it: old adage yields	••		01
3000-psi hydrostatic facility, A (for static		new problems (U.S., USSR face tough		VALVES	
and dynamic pressure tests) (A)F	56		88	Dynamic flow characteristics of pros-	
Transition from land to lake operations		transporting problem)S	00	thetic heart valves, A method for ana-	
in I.A.B. field (A)N	61	Teamwork and understanding: keys to	4.4	lyzing the (A)Mr	66
Ultraviolet sterilization of water and its		national progressAg	14	Electrochemical machining (ECM) of oil	
relation to maintaining aquatic orga-		Transportation Department		field valves (A)N	60
nism (A)Je	59	Aviation Administration, Federal		Investigations on piping components,	00
Undersea oil trapN	49	Smoke emission0	103		
	39	High-speed trainsD	79	valves, and pumps to provide informa-	107
Undersea silt-stabilizerD	90	Highway Administration, Federal		tion for code writing bodies (A)My	107
Underwater human performance measure-		1.016 trillion miles in 1968Ag	81	New concepts of split-spool valving (A)	
ment system, An (A)Je	59	Highway Safety Bureau, National		8	72
Underwater jointJe	45	Brake systems researchAg	48	Optimizing the performance of large ball	
Underwater pipeline repairs - conven-		Dynamic dummyMr	55	control valves for motor-driven pump	
tional and new (A)Je	59	Public Roads Bureau		stations (A)N	64
USC range at Santa Catalina Island (A)		Highway Statistics Division		Valve characteristics for pipeline ap-	
	69	Vehicle mileage — one trillionMr	82	plications (A)N	63
"Weightless" in inner spaceJe	47		-		
		Technical pipeline safety standards com-		VANASSE, J. R.	
INDERWOOD, ARTHUR F.		mittee		Effect of mean stress and of mean strain	
Manager of research laboratories retires		Asme members appointed to help		in low-cycle fatigue of A-517 and A-	
after 41 years with General Motors N	99	frame safety standards for trans-		201 steels (A)Ag	71
		porting gas by pipelineAg	103	VANDEGRIFT, ERSKINE, JR.	
UNITED NATIONS		Volpe on transportationMy	122		104
Conference on exploration and peaceful		Treasury			104
uses of outer space, 1968Ja	52	Borrowed silver returnedMy	122	VAN DEN ELSEN, J. B.	
Development Program (UNDP)		UNITED STATES OF AMERICA STANDARDS		Resistance against cavitation erosion of	
Computing research centerJl	57	INSTITUTE. See AMERICAN NATIONAL		14 chromium steels (A)D	61
Deadly bubbles, The: cavitation to be				VANDERVELDT, H. H.	
studied at new UNDP-Indian labora-		STANDARDS INSTITUTE			
toryAp	72	Standards Institute changes name to		Fracture of notched polymethyl meth-	
Sulfur bondJl	53	ANSIN	84	acrylate rings loaded in diametral com-	-
Sultur bond	00	UNITIZATION		pression, Some observations on (A)D	59
UNITED STATES		Unit loads in world commerce, The role		VAN DOREN, K. R.	
Agriculture Department			**	Unsteady pressure differential in a capil-	
Revised federal standards and pro-		of (A)D	56	lary-tube gas viscosimeter, Approxi-	
cedures for equipment acceptance in		University of California at Los Angeli	ES	mate correction for (A)0	89
meat and poultry plants (A)S	00	School of Engineering and Applied			00
	68	Science starts at UCLAMy	125	VANES	
Army		University of Colorado		Engine vane control (A)J1	59
Establishes award in honor of William	-	College of Engineering 1969 distinguished		Turning vanes in a square conduit elbow,	
H. KushniekJe	99	engineering alumni awards given to		Performance of (A)O	73
Materiel command deputy for labora-		Norman A. Parker, John Parmakian,		VAN KAMMEN, ISAAC J.	
tories0	125	and Frank H. ProutyS	114	Obituary	194
Robert B. Dillaway appointed		University of Illinois			104
Metal under stressF	41	College of Engineering gives honor award		VAN SLOTEN, J. P.	
Artificial heart program, TheJe	20		0.0	New devices for managing the product	
Chamber of Commerce		to Frederick J. SchlinkD	96	development process (A)Ap	56
Hooray!Jl	83	University of Southern California		VAPOR	
Turn back the clock?	82	USC range at Santa Catalina Island (A)		Improved boiling heat transfer with in-	
Coast Guard		Jl	69		
And all the ships at seaMr	82	University of Wisconsin		duced vapor bubble mixing (A)Je	61
Commerce Department		Bioengineering subcontracts	85	Laminar film condensation of a flowing	
Metric system study advisory panel				vapor on a horizontal cylinder at nor-	
Louis Polk named panel chairmanD	95	Unloading		mal gravity (A)N	
Roy P. Trowbridge named panel	00	Pyrotechnic-actuated cable releaseJe	48	Vapor velocity limit in a sodium heat	
	95	UPSON, MAXWELL M.		pipe, Experimental study of (A)O	87
memberD		ObituaryS	116	VAUGHAN, ARTHUR H.	
Regional development	103		110	ObituaryN	111
Safety Bureau, National		URBAN, LOUIS A.			
Vehicle Systems Research Office		Engine vane control (A)Jl	59	VAUGHAN, W. S., JR.	
Dynamic dummyMr	55	URBAN PLANNING AND DEVELOPMENT		Human factors considerations in the de-	
Standards Bureau, National		Cities of tomorrowMr	59	sign of wet submersibles, Some (A)	
Improved accuracy of U.S. legal volt	-	Dream capitalMr	58	Je	60
F	46		58	VEEDER, J. I.	
Office of Engineering Standards		Ocean cityMr		Elastic deformation of a circular rod of	
Service	_	"Power City"	53		
Standards information serviceMr	83	"The Engineer and the City" explored	-	finite length for an axially symmetric	
FAA near-miss programMy	123	at National Academy symposiumD	77	end face loading, The (A)0	80
Health, Education, and Welfare Depart-		Urbanosky, T. F.		VEHICLES, AIR TRANSPORT	
ment		Flueric light-off detector (A)Jl	64	Smoke emission0	103
Air pollution studyD	78				
		Usui, E.		VEHICLES, ALL-TERRAIN	
Pollution control: federal leadership F	20	Selection of optimum cutting conditions		Game vehicleJ	
Solid wastes program		through digital computation, On the		New concepts in overland mobility (A)	
Waste disposal surveyAp	74	(A)My	102		67

VEHICLES ALL-TERRAIN (Continued)	497	VEHICLES, UNDERWATER		Application of controlled mechanical im-	
Self-propelled power wheelAp	40	"Ben Franklin" emerges from Gulf	***	pedance for reducing machine tool vibrations (A)Ag	61
Walking machineAg VEHICLES, AUTOMOTIVE	53	StreamO Challengers of the silent depthsMy	100 75	Balancing criteria and their relationship	
Comeback for the Stanley steamer?Ap	44	Deepstar family of vehicles, Design char-		to current American practice (A)Ag	67
Skid roadP	42	acteristics of the (A)F	54	Bending-bending mode of a rotating tapered-twisted turbomachine blade in-	
VEHICLES, EARTH-MOVING		Hydrospace meets aerospaceMr Human factors considerations in the de-	92	cluding rotatory inertia and shear	
Cushion hitch, The: a vibration-absorber		sign of wet submersibles, Some (A)		deformation (A)Ag	6
for tractor-scrapers (A)Ag VEHICLES, ELECTRIC	58	Je	60	Building block approach to structural	63
Electric cars — comebackMr	82	Manned submersibles, Design and opera-	55	dynamics (A)Ag Comparison of flexible- and firm-founda-	-
Zinc-air batteryJe	50	tional performance of (A)F	61	tion rotor critical-speed analyses (A)	
VEHICLES, GROUND-TRANSPORT. See also		Operation bottom-fixN	48	a literature and the second	6
Transport		Optimal-suboptimal guidance law for an		Complete response of distributed systems controlled by a finite number of linear	
Aerodynamic drag on vehicles in tunnels		undersea vessel, An (A)F Pressure-balanced hydrazine fuel cell for	55	feedback loops (A)Ag	6
(A)	75 57	deep submersibles, Development of a		Critical speeds of a continuous rotor, On	
Pod full of passengersAp	45	prototype (A)Jl	70	the (A)	6
VEHICLES, MILITARY		Small submersible support systems (A)	E0.	for tractor-scrapers (A)Ag	5
New concepts in overland mobility (A)		Sublimnos-IMy	59 122	Damping of cylindrical shells coated with	
W. N.L	67	Submarine rescue vesselJe	44	viscoelastic materials, On the (A)Ag Diakoptics in the determination of turbine	6
Walking machineAg	53	Underwater bulldozerAg	57	bucket frequencies by the use of pertur-	
VEHICLES, MOTOR. See also BRAKES Labels for 1970 vehicles	100	VEITH, CHARLES J.	101	bations, An application of (A)Ag	6
NAPCA joins NASA in researchAg	102 81	Elected ASME FellowJe	101	Dynamic behavior of helical gears (A)	
1.016 trillion miles in 1968	81	Boundary-layer velocity distribution in		Dynamic stability of a vibrating ham-	6
Safety aspects in the design of industrial		turbulent swirling pipe flow, The (A)		mer (A)Ag	6
trucks (A)Je	68	0	72	Dynamic stability of rotor/stator radial	
VEHICLES, OFF-ROAD	00	Centrifuge analysis — effects on sedi- mentation coefficients of angular veloc-		rubs in rotating machinery, The (A)	6
New concepts in overland mobility (A)	36	ity lag, of deviations from Stokes'		Dynamics of beam-type periodic struc-	0
S	67	law of drag, and of acceleration effects		tures (A)Ag	6
Self-propelled power wheelAp	40	(A)Je	64	Dynamics of continuous multimass rotor	
Walking machineAg	58	Comparison of flexible- and firm-founda- tion rotor critical-speed analyses (A)		systems (A)	6
VEHICLES, RACING	40	Ag	67	fundamental plate frequency (A)Ag	6
Stainless-steel racing vehicleJl	46	Controlling electric motor speed (A)S	74	Effect of airflow on the behavior of foam	
VEHICLES, RAILROAD. See also TRANSIT		Effects of nonuniform inlet velocity pro-		as a dynamic element in shock and vibrations, The (A)Ag	6
Systems		files on flow regimes and performance in two-dimensional diffusers (A)Mr	62	Effect of vibration on heat transfer from	
Freight car cushioning, The development of concepts in (A)F	53	Fluidic overspeed sensor for a power tur-		spheres (A)My	9
Hunting of railway vehicle on test stand,	00	bine (A)	62	Effects of axial vibrations on frictional	٠,
Problems on (A)F	52	Gibson method of water measurement,		losses in gear systems (A)Ag Effects of modal cross-coupling on metal-	
Interior noise reduction in rail vehicles		Velocity distribution and its effect on the accuracy of the (A)	64	turning operations, The (A)Ag	6
—a specific example (A)Ag Lateral dynamics of railway vehicles,	65	Mass and velocity error effects on the	-	Effects of sound on jets and flueric de-	
General aspects of the (A)F	52	performance of hydraulic energy ab-	-	vices, A discussion of the (A)Ag	
Performance of freight car brake regu-		sorbers (A)Mr Precession and critical speeds of rotor	70	Electrohydraulic vibration isolation sys- tems, Theoretical and experimental in-	
lators during static and dynamic condi- tions (A)F	E0	systems, An analysis of (A)Ag	66	vestigation of (A)Ag	
Roller bearing adapter mountings for	53	Speed hearing0	67	Expected equivalent damping under ran-	
railroad cars (A)F	53	Trajectory and spreading of a turbulent		dom excitation (A)Ag Flexural vibration of rectangular ortho-	•
Sonicar (A)	53	jet in the presence of a crossflow of arbitrary velocity distribution (A)Jl	63	tropic plates, The (A)	1
Steering a flexible railway truck on curved track (A)Ag	73	Turbine-speed fuel pump for small gas-		Flow-induced vibrations of metal bellows	
Thermal stresses in railcar wheels, A	10	turbine engines, A (A)Jl	66	(A)Ag	
three-dimensional finite difference solu-		Turbulent velocity distribution in a rod bundle (A)My	97	G-limiting attachment for equipment (A)	
Transit propulsion unit suspension, A new	72	Velocities and streamlines on a blade-to-		Gas turbine blade vibration, Experimental	1
-proved on Northeast Corridor high-		blade surface of a turbomachine, Pro-		investigation of — a review (A)Ag	-
speed test cars (A)Ag	72	grams for computation of (A)Jl	66	Gear diagnostics and wear detection (A)	
Wheel-rail adhesion (A)F	53	Velocity fields in eccentric annuli, On the	62	Ag	-
Yard control equipment for perfect car handling, Design of (A)F	53	(A)	02	Grinding process instability (A)My	1
VEHICLES, SNOW	- 00	for fully developed, turbulent, low Rey-		Gyroscopic systems as vibration absorbers	
Skimobiles increasing, face hard useD	49	nolds number pipe flow (A)Mr	62	(A)Ag	1
VEHICLES, SPACE		VELZY, C. O.		Influence of dissipative heating on the loss factor of a viscoelastically damped	
Corrosion failures of spacecraft hardware		Enigma of incinerator design, The (A)	100	beam, The (A)Ag	-
(A)Ag	70	Му	100	Influence of internal friction on the sta-	
KSC: Spaceport for the moon		VENTURIS Performance of curved entrance 3 in. x 1/2		bility of high speed rotors with aniso-	
Part 1: Challenge and the means, The	11	in, venturimeters (A)Mr	64	tropic supports, The (A)Ag	
Part 2: Building a gargantuan assem-	11	Venturi meter with separable diffuser		Influences of large amplitudes, trans- verse shear deformation, and rotatory	
bly line	35	(A)Je	62	inertia on lateral vibrations of trans-	
by the	67	Vesely, Richard J.		versely isotropic plates (A)0	
World's largest building (C)D		Stress-corrosion cracking of AISI 52100		Interior noise reduction in rail vehicles-	
World's largest building (C)D Part 3: Gentle mammoth, TheAg	35 41			a specific example (A)Ag	
World's largest building (C)D	41	steel in turbine lubricant environments	70		
World's largest building (C)D Part 3: Gentle mammoth, TheAg Part 4: Springboard to spaceS Part 5: Loosening the terrestrial bonds		(A)Ag	70	Lateral stability of road and rail trailers,	
World's largest building (C)	41	(A)Ag VESSELS	70	Lateral stability of road and rail trailers, The (A)Ag	
World's largest building (C)D Part 3: Gentle mammoth, TheAg Part 4: Springboard to spaceS Part 5: Loosening the terrestrial bonds	41	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear		Lateral stability of road and rail trailers, The (A)Ag Lateral vibration of V-belts (A)Ag	
World's largest building (C)	41 47 25 43 54	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center		Lateral stability of road and rail trailers, The (A)Ag	
World's largest building (C)	41 47 25 43 54 61	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) D	41 47 25 43 54 61 50	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C)	41 47 25 43 54 61	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) D	41 47 25 43 54 61 50 28 70	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) D Part 3: Gentle mammoth, The Ag Part 4: Springboard to space S Part 5: Loosening the terrestrial bonds O Moon mission completed — and recorded (Ed) O Lunar pogo F Nuclear flight stage N Planetary slingshot O Space shuttle J Space system: 2001 Ja Surveyor landing shock attenuation system, Design and analysis of the (A) S Thermal profile of Mars Ag	41 47 25 43 54 61 50 28	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) Depart 3: Gentle mammoth, The Ag Part 4: Springboard to space Separt 5: Loosening the terrestrial bonds Office of the Separt 5: Loosening the terrestrial bonds Office of the Separt 5: Loosening the terrestrial bonds Office of the Separt 5: Loosening the terrestrial bonds (Ed) Office of	41 47 25 43 54 61 50 28 70	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) D Part 3: Gentle mammoth, The Ag Part 4: Springboard to space S Part 5: Losening the terrestrial bonds O Moon mission completed — and recorded (Ed) O Lunar pogo F Nuclear flight stage N Planetary slingshot O Space shuttle JI Space system: 2001 Ja Surveyor landing shock attenuation system, Design and analysis of the (A)S Thermal profile of Mars Ag Vehicles, Track-Laying Turbomechanical transmissions for pro-	41 47 25 43 54 61 50 28 70	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center	92	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) Depart 3: Gentle mammoth, The Age Part 4: Springboard to space Separt 5: Loosening the terrestrial bonds Omnission completed—and recorded (Ed) Octubrate pogo Fee Nuclear flight stage New Planetary slingshot Octubrate Space shuttle Jee Space shuttle Jee Space shuttle Jee Space system: 2001 Jee Surveyor landing shock attenuation system, Design and analysis of the (A) See Thermal profile of Mars Age Vehicles, Track-Laying Vepulsion steering of track-laying vepulsion steering vepulsi	41 47 25 43 54 61 50 28 70 50	(A)	92 64 65	Lateral stability of road and rail trailers, The (A)	
World's largest building (C) D Part 3: Gentle mammoth, The Ag Part 4: Springboard to space S Part 5: Losening the terrestrial bonds O Moon mission completed — and recorded (Ed) O Lunar pogo F Nuclear flight stage N Planetary slingshot O Space shuttle JI Space system: 2001 Ja Surveyor landing shock attenuation system, Design and analysis of the (A)S Thermal profile of Mars Ag Vehicles, Track-Laying Turbomechanical transmissions for pro-	41 47 25 43 54 61 50 28 70	VESSELS "Second sun, The" (former ferryboat launches new career as floating nuclear information center VIALL, W. S. Engine inlet on the 747, The (A)	92 64 65	Lateral stability of road and rail trailers, The (A) Ag Lateral vibration of V-belts (A) Ag Limit cycles and stability of a nonlinear two-degree-of-freedom autonomous vi- bratory system (A) Ag Longitudinal oscillation of a liquid-filled, clastic, cylindrical-conical tank (A) Ag Low-speed chatter effects, An explanation of (A) Ag Matric Computor for the solution of mechanical vibrations problems, The	

IBRATION (Continued)		Whirl in a finite journal bearing with a		VRANA, J. C.	
Metal forming with vibrated tools (A)	80	continuous lubricating film, An analytic solution for (A)Ag	66	Pressure signal generator for fluidic re-	70
Methods for balancing high-speed rotors,	60	Viera, S.		vutz, N.	
Significant developments in (A)Ag	62	Gas turbine's application in central chilled		Thermal contact resistance of anisotropic	
Minimum weight design of disks using a		water and heating plants, The (A)Jl	65	materials (A)N	72
frequency constraint (A)Ag	58	Vinson, J. R.			
Modeling vibration characteristics of a fluid drive control mechanism (A)Ag	64	Influences of large amplitudes, trans- verse shear deformation, and rotatory		Management of	
Motion of a flat-plate pendulum in a		inertia on lateral vibrations of trans-		Carried No. 7	
viscous fluid, The (A)Ag	61	versely isotropic plates (A)0	81	the city of the sales of the city of	
Multicomponent force transducer for use		VISALLI, JOSEPH R.		WACHEL, J. C.	
on rocket sleds (A)	61	Receives Marjorie Roy Rothermel memori-		Analytical techniques for evaluation of compressor-manifold response (A)N	63
namical systems (A)Ag	65	al scholarship award of ASME Woman's	76	WACKER, G. A.	00
New methods of applying vibrating hop-		VISCOMI, VINCENT B.	10	Stress corrosion testing of 7079-T6 alumi-	
pers (A)D	56	Promoted to associate professor of me-		num alloy in seawater using smooth and	
Nondimensional plots in nonlinear vibra- tions (A)	70	chanical engineering at Lafayette Col-		precracked specimens (A)Ag	70
Nonlinear oscillation of a cylinder con-		lege, Easton, PaJl	119	WADE, J. H. T.	
taining a flowing fluid (A)Ag	64	VISCOELASTICITY		Velocity fields in eccentric annuli, On	60
Nonlinear vibrations of a beam with	00	Behavior of nonlinear viscoelastic material		WAKEMAN, ROBERT E.	Ua
pinned ends (A)	66	under simultaneous stress relaxation in tension and creep in torsion (A)Je	67	Professionalism (C)	72
shells (A)N	74	Effects of combined shearing and stretch-		WAKES, See also Power Engineering	
Optimization techniques for shock and		ing in viscoelastic lubrication (A)D	61	Laminar wake behind a finite flat plate,	
vibration isolation, Comparative study	or	Elastic filament reinforcement of a visco-	76	A numerical solution for the (A)Je	66
of (A)	65	elastic cylinder, On (A)N Nonlinear viscoelastic solid in uniaxial	10	Steady flow in the wake of a plane	73
tems subject to random input, A new		tension, An experimental study of a		flame, Development of (A)	10
criterion for (A)Ag	66	(A)N	78	ing cylinder, The (A)Je	64
Parallel damped dynamic vibration ab-	00	Optimization of a viscoelastic structure:	00	WAKSTEIN, C.	
sorbers, Analysis of (A)Mr Parallel-flow-induced vibration of a cylin-	69	the seat-belt problem (A)D Response of a viscoelastic annulus to a	66	Social effects of technology (C)N	79
drical rod (A)Ap	64 -	step transverse load (A)D	61	WALDEN, ROBERT R.	***
Periodic motions of a two-body system		Tensile failure of viscoelastic materials			111
subjected to repetitive impact (A)Ag	58	under multiaxial loading, Description	66	WALDRON, K. J. Symmetric overconstrained linkages (A)	
Practical holographic mode shapes on tur- bine blades (A)	64	of (A)	00	Symmetric overconstrained intages (A)	45
Precession and critical speeds of rotor		mechanics of arteries (A)S	79	WALES, ROYAL L.	
systems, An analysis of (A)Ag	66	Viscoelastic properties of scalp, brain, and		ObituaryP	89
Reducing the response of integrally stiff-		dura, Some (A)S	77	WALKER, B. J.	
ened structures to random pressures, Methods of (A)Ag	62	VISCOSIMETER		Instability thresholds predicted by the	
Reduction of noise and vibrations in a	02	Unsteady pressure differential in a capil- lary-tube gas viscosimeter, Approx-		single-phase representation of water	00
hydraulic turbine (A)O	75	imate correction for (A)	83	WALKER, FREDERICK W.	30
Response of a beam subjected to a cyclic		Viscosity			116
moving load, On the (A)Ag Response of a structure moving through a	61	Slip ratios and film roughness in annular,		WALKER, G. E., JR.	
random load field, On the (A)Ag	64	viscous-turbulent, two-phase flow (A)		Green's function for the stress-intensity	
Response of bilinear structural systems		0	73	factors of edge cracks and its applica-	
to earthquake loads (A)Ag	63	VLIET, G. C.		tion to thermal stresses, A (A)F	57
Response of linear systems to magnitude limited random excitation (A)Ag	65	Natural convection local heat transfer on constant-heat-flux inclined surfaces (A)		Stress intensity factors for edge cracks in rectangular plates with arbitrary	
Self-sustained two-degrees-of-freedom sys-	00	N	71	loadings (A)F	57
tem with nonlinear damping, Response		Turbulent natural convection boundary		WALKER, J. H.	
and stability of a (A)Ag	62	layers, An experimental study of (A)	73	Inspection and sorting with fluidics (A)	-
Steady-state response of a two-degree-of- freedom double bilinear hysteretic sys-		V P P			70
tem (A)Ag	63	Vogel, Billy Ray ObituaryD	100	WALKER, W. F.	
Transfer functions for helical springs		Vohr, J. H.	100	Undergraduate engineering laboratory in- structionMr	36
(A)Ag	66	Helical-grooved journal bearing operated		WALKUP, P. C.	
Transmissibility measurements for the determination of structural damping		in turbulent regime (A)D	61	Waste heat dissipation from artificial	
(A)Ag	64	Voids		hearts — engineering constraints (A)	
Vehicle vibration analysis using frequency	0.	Void fractions in subcooled flow boiling		Му	10
domain techniques (A)Ag	65	(A),	69	WALLACE, J. L.	
Vibration amplitudes of compressor blades		VOLKMANN, J. F.		Computers in the textile industry, The future of (A)	4
resulting from scatter in blade natural		Wanted: society support (C)Ag	77	WALLENBURG, WALTER G.	
frequencies (A)F	59	VOLMER, J.		ObituaryAg	10
Vibration and dynamic instability of a beam-plate in a transverse magnetic		Design of a mechanism: synthesis by		WALLENHORST, R. G.	
field (A)O	80	iterative analysis (A)Ja	45	Marketing for fully optimized product	-
Vibration and noise characteristics of an		VOLPE, JOHN A.		selection, A graphical aid for (A)Ap	5
aircraft-type gas turbine used in a ma-		Volpe on transportationMy	122	WALLIS, G. B.	
rine propulsion system (A)Jl		VON HOENE, HARRY L.		Annular two-phase flow Part I: A simple theory (A)0	7
Vibration monitoring 0 40; (A) Ag		Appointed director of research and prod- uct development, Sperry Rand Corp.'s		Part II: Additional effects (A)O	
Vibration of axially excited circular cylin- drical shells containing fluid, Experi-		Vickers Div., Detroit MichAp		WALLS	
mental studies of (A)Ag	60	VORTEXES		Coanda curved wall attachment device, A	
Vibration of containing structures by		Confined vortex oscillator, A theoretical		theoretical and experimental study of	
sound in the contained fluid (A)Ag		and experimental investigation of a (A)		a (A)Mr Compressible laminar wall jet with ar-	
Vibrations and fractures in the machining		0		bitrary wall temperature, Similarity	
of plastics (A)Ap		Critical submergence for vortexing in a vertical cylindrical tank, Experimental		analysis of (A)0	7
Vibrations in high-speed rotating ma-		investigation of (A)	76	Flow of dry bulk solids on bin walls (A)	
chinery, Experimental investigation of		Fatique failures induced in heat exchanger		Linearized theory of three-dimensional	
Vibrations of a laminated body, On the		tubes by vortex shedding (A)N		jet mixing with and without walls (A)	
(A)Je		Incompressible flow in short vortex		0	
Vibrations of an elastic layer, An asymp-		chambers, An analytical model for the		Pressures on silo walls (A)Ja	
totic method to analyze the (A)0	81	Taylor - Goertler vortices and their effect		Resistances to heat and momentum trans- fer in the viscous sublayer at rough	
Vibratory bending of damped laminated		on heat transfer (A)	88	walls, Some correlations for (A)0	
plates, The free (A)		Vortex amplifier, Analysis and modeling		Two-dimensional, turbulent wall jet in a	
Vibratory motion of a body on an elastic half plane (A)Je		VORTICITY	78	moving stream, Some properties of the	
Water drag effects of flow induced cable		Vorticity and Kutta condition for un-		Wall attachment at high Knudsen num-	
vibrations (A)		steady multienergy flows (A)		bers: experimental results (A)0	

WALTERS, SAMUEL		High temperature wastewater treatment	60	Progressive waves on swirling cavity flow	-
Garbage block, The: a new building material	19	Instability thresholds predicted by the	60	in a circular pipe (A)O Pulsatile flow behavior in elastic systems	73
WALTON, EDWARD H.		single-phase representation of water (A)My	98	containing wave reflection sites (A)	64
Joins ASME staff as director of planning	106	Measured pressure waves in water arising		Shock propagation in a strain-hardening	
Wambsgannss, M. W., Jr.		from electrical discharges and detona- tion of small amounts of chemical		material (A)O Transient shear waves in two joined elas-	82
Parallel-flow-induced vibration of a cylin- drical rod (A)Ap	64	explosives, A comparison between (A)	60	tic quarter spaces (A)D	66
WAN, F. Y. M.		Ultraviolet sterilization of water and its	69	Tunnel communication	42
Side-force problem for shallow helicoidal shells, The (A)	82	relation to maintaining aquatic orga-	59	rials (A)N	74
WANDLING, D. E.	92	nism (A)Je Value of water in industry, The (A)S	79	WAY, STEWART MHD power generation: current status	
Actual popping pressure of a relief valve		Water jet pumps, Optimum design of (A)	64	Ag	18
with a real helical spring under dy- namic load (A)Ag	67	Water resource development of Mullica		Report by MHD subcommittee of ASME energetics division (A)My	105
WANG, K. K.		River basin, New Jersey (A)	80	WEAR	
Investigation of face-milling tool tem- peratures by simulation techniques (A)		WATER DESALINATION DeionizerAp	46	Gear diagnostics and wear detection (A)	60
My	102	Desalination plant for KuwaitMy	93	Wear equation for bonded solid lubricant	00
WANGERIN, D. D.		Nuclear desalting facilityF Sweet water from sewageMy	69 89	films, A: estimating film wear life (A)	84
Are we getting the most out of by- product fuels? (A)Je	69	WATER HAMMER	-	Wear life expectancy of USA Standard	1
WARD, C. C.		Water-hammer attenuation with a tapered	**	B29.1 roller chain (A)N WEATHER. See METEOROLOGY	64
Heat trauma — a parametric dynamic study (A)	79	line (A)F	61	Automatic safetyJe	57
WARD, E. G.	10	Gas turbine's application in central chilled		Global weather predictionF	44
Strictly sinusoidal flow around a station- ary cylinder (A)	70	water and heating plants, The (A)Jl	65	WEAVER, CHARLES H. Elected chairman of the board of trustees	
WARD, NAIRNE F.	73	WATER POLLUTION. See POLLUTION, WATER	R	of the National Security Industrial As-	
ObituaryAg	108	WATERS, E. O. Axisymmetric, nonidentical, flat face		WEAVER, GERALD H.	101
WAREHOUSES Identifying and implementing optimum		flanges with metal-to-metal contact be-		Joins Maytag Co., Newton, Iowa, as	
warehouse systems (A)D	56	yond the bolt circle (A)Mr Honored by ASME pressure vessel and	67	quality control engineer	113
Unmanned warehouseD	53	research committeeAp	83	WEBB, G. ARTHUR Elected to the board of directors, En-	
WARMINGTON, THOMAS J. ObituaryF	90	WATERS, K. L.		vironmental Sciences, Inc., Pittsburgh,	
WARNAKA, G. E.	09	Synthesis of a pure-fluidic temperature control system (A)My	104	PaMy WEBB, JERVIS C.	101
Interior noise reduction in rail vehicles-		WATKINS, ROBERT E.		Appointed member of board of directors,	
a specific example (A)Ag	65	ObituaryAp	102	Anderson Co., Detroit, MichAg	103
Warren, Glenn B. Designated John Fritz medal recipient for		WATTS, R. G.		WEBER, WILLIAM G. Obituary	128
19700	125	Temperature distribution in solid and hollow cylinders due to a moving		Webster, Lee R.	
Washington Award 1969 recipient is Nathan M. Newmark		circumferential ring heat source (A)		Systems engineering: the role of reli-	
My	151	Thermal expansion of the workpiece dur-	94	abilityJa	10
WASTE HANDLING		ing turning (A)My	102	Wedges Stresses in wedges of cohesionless mate-	
Combustion of solid refuse (A)My Controlled environment storage facility	108	WAVE MECHANICS		rials formed by free discharge at the	
for nuclear waste containers, A (A)	1	Axisymmetric elastic-plastic wave prop- agation in 6061-T6 aluminum bars of		apex (A)Ja WEHRMANN, WILHELM	44
Cost of industrial and municipal waste	63	finite length (A)	75	ObituaryN	111
treatment in the Maumee River basin	79	tic wave propagation, Elastic-plastic		WEICHBRODT, BJORN	
(A)	19	boundaries in (A)Je Drexel esta lishes a multidisciplinary	67	Gear diagnostics and wear detection (A)	60
treatment alone is not enough (A)Je Disposal of wastes from industrial plants	60	wave research centerJl	84	What sound can be expected from a worn	
(A)D	58	Effects of temperature gradients on the propagation of elastoplastic waves (A)		tool? (A)My	100
Field testing of aerators in waste treat- ment plants (A)	80	Je	65	Weidner, C. Ken Protecting the public (C)0	90
Garbage block, The: a new building mate-	00	Elastic waves in a hollow sphere, Three- dimensional and shell-theory analysis		WEIGHTS AND MEASURES. See also METRIC	
Garbage disposal	19 102	of		System	
"Grand Conceptor" award	83	Part 1: Analytical foundation (A)N Part 2: Numerical results (A)N	74	Improved accuracy of U.S. legal voltF Metric, metric (C)My	
Heat value of refuse (C)Ap High temperature wastewater treatment	68	Excitation of an elastic cylindrical shell	-	Metrication for the United States	
process, A (A)Je	60	by a transient acoustic wave (A)N High-frequency stress waves propagating	76	Congress needs answersMy Is it really necessary?My	12
Incineration of process wastes (A)My "Industrial Waste Disposal" (BR)Jl	108 73	in bars and plates, Photoelastic study of		How Britain is doing itMy	16
Nonmechanical solids flow control device	(7)	Initial slope of elastic-plastic boundaries	65	Canadian view, TheMy What are the options?My	
in the waste calcining facility, Experi- ence with (A)Ja	44	in combined longitudinal and torsional wave propagation. On the (A)	80	Metric — there and here (C)Jl	71
Solid waste projectF	68	Laser wavelength—new length reference?	00	World measurement system?	83
Sweet water from sewageMy Waste disposal surveyAp	89 74	Linearized wave propagation models for	88	WEINER, JEROME H. Appointed to Brown University, Provi-	
WATER		arterial blood flow analysis, Compari-	111	dence, R. I., faculty in engineering and	-
Aquatic research	84	son of (A)	78	physics departmentsAp Weingold, H. D.	96
thalpy difference of heavy water, A (A)	MIT	cular bar loaded suddenly by a radially		Flow through cascades of slotted com-	
Electrolytic water sterilizerJe	88 48	distributed end stress (A)N Measured pressure waves in water arising	74	pressor blades (A)	
Entrainment of water by stream of	W. CHELLY	from electrical discharges and detona-		Weisberg, D. E. Engineering applications with a small	H
successive air bubbles, An investigation of the (A)My	104	tion of small amounts of chemical explosives, A comparison between (A)		computer (A)S	
First award (1969), from ASME Process	-	J		Weiss, H. D.	
Industries Division, for outstanding con- tribution in water quality control goes		Peristaltic waves in circular cylindrical tubes (A)		Photoelastic stress exploration for pre- liminary design (A)Mr	
to Allan CywinS		Plane waves due to combined compressive		WEISSERT, LOUIS R.	, U
General equations of two-phase systems and their applications to air-water		and shear stresses in a half space (A)	80	Appointed manager, Washington Opera-	
bubble flow and to steam-water flashing		Pressure attenuation in long rarefaction		tions of Babcock & Wilcox Company's Power Generation DivisionJa	
flow (A)		Progressive waves moving through a cir-	61	WEITSMAN, Y.	
Velocity distribution and its effect on		cular pipe containing a rotating flow	Harrist	Unbonded contact between plates and an	
the accuracy of the (A)Je	64	of water with an axial cavity (A)0	73	elastic half space, On the (A)	81

WELCH, R. EDWARD		WHITE, F. M.		WILLIAMS, BRUCE E.	
Promoted from research engineer to		Analyzing the turbulent boundary layer		Named director of engineering, copier	
senior engineer with engineering me- chanics division, IIT Research Insti-		with arbitrary pressure gradient, A new integral method for (A)Je	20	products div., at Pitney-Bowes, Inc.,	107
tute, Chicago, IllAp	97	WHITE, GEORGE W.	63	Norwalk, ConnN WILLIAMS, ELLIS, JR.	101
WELDING	•	Appointed to U. S. Department of Trans-		Single acting triplex pumps for mud serv-	
Automatic machine for percussive welding		portation's Technical Pipeline Safety		ice (A)N	63
of contacts on miniature wire spring	100	Standards Committee to help frame		WILLIAMS, G.	
relay single wire combs, An (A)My Closed circuit TV guides welding arcMr	102 50	safety standards for transporting gas by pipelineAg	103	Effects of combined shearing and stretch-	61
Code quality hyperbaric welding of off-	00	WHITE, GERALD S.	100	ing in viscoelastic lubrication (A)D WILLIAMS, J. A.	91
shore pipelines (A)N	60	Named northeast regional sales manager		Fracture toughness of irradiated and	
Effect of residual stresses on the low		of Babcock & Wilcox's power genera-		unirradiated heavy section pressure	
cycle fatigue life of large scale weld- ments in high strength steel (A)D	60	tion divisionAp	98	vessel material (A)Je	63
Improved table for cutting and welding	00	WHITE, JAMES C.		WILLIAMS, J. A.	
D	44	Retires from Eastman Kodak Co., chair- man of three manufacturing divisions		Green's function for the stress-intensity	
Post-irradiation fatigue properties of base		and as chairman of the board of a		factors of edge cracks and its applica- tion to thermal stresses, A (A)F	57
metals and weldments (A)Ag Simplified welded specimen for evalua-	71	Kodak marketing subsidiaryMy	151	WILLIAMS, J. C., III	
tion of low-cycle fatigue under com-		WHITE, SEVERN ANDREW		Transition from supersonic to subsonic	
pression (A)D	60		154	flow at low Reynolds numbers in a tube,	
Ultrasonic joining of plastic parts (A)S	73	WHITE, W. E., JR.		On (A)	82
WELKER, H.		Underwater pipeline repairs — conven- tional and new (A)Je	59	WILLIAMS, JOHN D.	
Taylor - Goertler vortices and their effect on heat transfer (A)O	88	WHITEHOUSE, JOHN R.	00	Re-elected president of Lipe-Rollway Corp., Syracuse, N. Y., and named chief	
Weller, E. J.	80	Promoted to manager of systems plan-		executive officer of corporation and	
What sound can be expected from a worn		ning, Tuttle & Bailey, New Britain,		its subsidiary, Rollway Bearing Co.	
tool? (A)My	100	ConnD	95	. уМу	151
WELLS		WHITELAW, J. H.		WILLIAMS, M. L.	
Calculation of allowable maximum casing		Two-dimensional, turbulent wall jet in		Electron paramagnetic resonance meas-	
temperature to prevent tension failures	20	a moving stream, Some properties of the (A)Je	68	urements of strain-induced ozone crack- ing in rubber (A)Ag	71
in thermal wells (A)N Wells, C. H.	63	WHITELAW, R. L.	00	WILLIAMS, R.	
Small-strain plasticity theory for planar		Nuclear EEL, TheN	23	Computerized determination and analysis	
slip materials, A (A)0	81	Nuclear EEL, The: a new concept in		of cost and production rates for ma-	
WELLS, ROBERT L.	-	ocean freight transportation (A)Je	58	chining operations:	
Appointed to new post of vice-president,		WHITING, RICHARD A.		Part 2 — Milling, drilling, reaming, and tapping (A)My	103
atomic divisions of Westinghouse Elec-		ObituaryF	89	WILLIAMS, ROBERT C. G.	200
tric Corp.'s commercial nuclear power	110	WHITNEY, J. M.		Chief engineer of Philips Electronic &	
organization, Pittsburgh, PaJl WENDEL, DANIEL P.	119	Heterogeneous anisotropic plates, Analysis of (A)O	81	Associated Industries Ltd., awarded	
ObituaryJe	104	WHITTEN, C. M.	01	O.B.E. for services to exportJl	119
WENDT, EDGAR F.	104	Sulfur dioxide removal from a pilot mov-		WILLIAMS, ROBERT J.	
ObituaryN	111	ing grade furnace stack gas (A)D	58	Designated district manager of Chicago	
WENK, EDWARD, JR.		WHITTIER, J. S.		sales office, Riley Stoker Corp., Wor- cester, MassJe	100
Elected to National Academy of Engineer-		Experiments on dispersive pulse prop-		WILLIAMS, SAMUEL C.	***
ing8	113	agation in laminated composites and	76	ObituaryF	89
WEPNER, ROY		comparison with theory (A)N WICHNER, R. P.	10		-
Professional status (C)Ag	75	Slip ratios and film roughness in annular,		WILLIAMSON, FRANK A. ObituaryF	89
West, C. H.		vsicous-turbulent, two-phase flow (A)		WILLIAMSON, JOHN W.	
Development of grease-lubricated tapered roller bearings for high-speed rail		0	73	Extension of Prandtl's mixing length	
transportation (A)D	65	WICKENS, A. H.		theory, An (A)O	76
WESTCOTT, RALPH M.		Lateral dynamics of railway vehicles,	E0	WILSON, CHARLES D.	
Appointed director of water quality con-		General aspects of the (A)F	52	ObituaryN	111
trol, at Quinton-Budlong, Los Angeles,	107	Determination of properties of capillary		WILSON, D. M.	
CalifN WESTERN ELECTRIC	107	media useful in heat pipe design (A)		Proportional speed floating control for	
ASSE Western Electric award for excel-		N	67	liquid pipe lines (A)N	63
lence in teaching goes to M. M. El-Wakil		Liquid transport properties of some heat		WILSON, F. N.	
D	95	pipe wicking materials (A)N	67	Density effects on fluidic feedback oscilla-	
Western Electric Fund national award for		Performance of a wick-limited heat pipe (A)N	66	tors (A)0	78
excellence in instruction of engineering students goes to Francis H. RavenO	105	Temperature distribution in heat pipe	-	WILSON, GERALD M.	
Westinghouse Electric Corp.	140	wicks, Analysis of (A)0	87	Appointed regional manager of Oilfield	
Nuclear center0	103	Wicks, F. C.		Sales, Rex Chainbelt, Inc., Denver, Colo.	196
WESTINGHOUSE, GEORGE GOLD MEDAL		Promoted to sales engineer, industrial di- vision, in Cleveland office of Timken		Wilson, M. P., Jr.	
1969 medal recipient is Ralph C. RoeN	107	Roller Bearing Co., Canton, OhioAp	97	Switching process in bistable fluid ampli-	
WHEELER, HOBART W.		Wickstrand, N. M.		fiers, The (A)0	
ObituaryF	89	Depth of permanent indentations in flat		WILSON, N. W.	
WHEELS		plates due to loaded cylindrical rollers		Velocity fields in eccentric annuli, On the	
Hunting of railway vehicle on test stand,		(A)0	83	(A)Mr	62
Problems on (A)F	52	WIETING, D. W.		WILSON, W. B.	
Rolling friction		Dynamic flow characteristics of proathetic heart valves, A method for analyzing		Unique application of gas turbines in a	
IV — Additional car wheel experiments (A)		the (A)Mr		coke and coal chemical plant, A (A)	
Steering a flexible railway truck on		Wiggs, A. J.		Ag	68
curved track (A)Ag	73	Simplified welded specimen for evaluation		Winding	
Thermal stresses in railcar wheels, A		of low-cycle fatigue under compression		Techniques for measurement of winding tension in ring twisting (A)	
three-dimensional finite difference solu-		WIKEN, CHRISTY ARTHUR	60		10
tion for the (A)Ag	12	Elected ASME FellowJe	109	Winer, David A. Named president and chief operating of-	
WHIPPLE, W., JR. Oxygen dynamics and economic growth		WILBUR, E. REED	200	ficer of Identimation Corp., a subsidiary	
in the Millstone River (A)		ObituaryN	111	of Sibany Mfg. Corp., Northvale, N.J.	
WHIRL		WILCOCK, D. F.		Ag 103; S	113
Whirl dynamics of a rotor partially filled		Hybrid boost bearing, The — a method of		WINN, L. W.	
with liquid (A)Je		obtaining long life in rolling contact		Hybrid boost bearing, The — a method of	
WHISKERS		bearing applications (A)D		obtaining long life in rolling contact bearing applications (A)	
"Whiskers"	82	WILDER, ARTHUR B.		WINTER, E. R. F.	-
WHISTLER, A. M.		ObituaryS	116	Choking and shock phenomena in a single-	
New look at plunger pump suction re-		WILKINS, J. F.		component two-phase flow including	
quirements, A (A)N	63	Salt effects in mucin lubrication (A)O	83	vibrational effects (A)N	68

WINTER, P. M.		Wrong, C. B.		YARNALL, D. ROBERT, JR.	
Biaxial residual surface stresses from		Introduction to the JT15D, An (A)JI	69	President of Yarway Corp., Blue Bell,	
grinding and finish machining 304		Wu, C. G.		Pa., receives U. S. Department of Com-	
stainless steel determined by a new dissection technique (A)		Vibration of axially excited circular		merce's Presidential "E" Award for	
Wire	57	cylindrical shells containing fluid, Ex-		Yarway's excellence in export develop-	95
Designing wire parts for high production		perimental studies of (A)Ag Wu, C. H.	60	YATES, DONALD F.	90
	25	Strongest circular arch, The—a perturba-		Named manager, power plant test and	
Flow and filtration characteristics of wire		tion solution (A)Je	68	operations dept., Burns and Roe, Inc.,	
cloth (A)My WIRE DRAWING	104	Wu, Cheng-In		Oradell, N. J0	125
3000-lb coils from new rod millJe	***	Influences of large amplitudes, transverse		YAU, WEN-FOO	
WIRE ROPE	53	shear deformation, and rotatory inertia		Elastic ring, A mixed problem for an	00
Torsional properties of wire rope (A)O	79	on lateral vibrations of transversely		(A)Je	00
WIRTSEN, ERNST	15	isotropic plates (A)O Wu, S. M.	81	YEDIDIAH, S. Calculating the head developed by an im-	
ObituaryD	100	Investigation of face-milling tool tempera-		peller with a finite number of blades,	
WISCHMEYER, CARL		tures by simulation techniques (A)My	102	Approximate method for (A)0	72
ObituaryD	100	Transient drilling temperature responses,		Yен, H. Y.	
WISE, WALTER R.		Building a mathematical model to pre-		Response of bilinear structural systems to	
Appointed director of research and de-		diet (A)My	102	earthquake loads (A)Ag	63
velopment for Garlock Inc., Palmyra, N. YJa	99	WUNDERLICH, MILTON S. Elected ASME FellowO	127	YELLOTT, J. I. Naturally air-conditioned building, Con-	
WISTRAND, HANS A.	90	WYLIE, E. B.		, struction and operation of a (A)Mr	66
ObituaryJe	104	Forced and self-excited oscillations in		YIELDING	
WITTEMANN, R. G.		propellant lines (A)0	75	Influence of Bauschinger effect on reverse	
Anaerobics — a new approach to gaskets		WYLIE, R. D.		yielding in thick-walled cylinders (A)	
Ag 26; (A) Ap	66	Effect of hydrogen on the strength of		D	60
WITTIG, CARL O. G.		austenitic and nickel-base alloys (A)	71	Үн, С. S.	67
ObituaryJl	124	Post-irradiation fatigue properties of	11	Peristaltic transport (A)Je	61
WITTMANN, T. J. Human body nonlinearity and mechanical		base metals and weldments (A)Ag	71	YIN, F. Peristaltic waves in circular cylindrical	
impedance analyses (A)S	77	WYLLIE, JOHN S.		tubes (A)N	73
WITTMEYER, H.	• •	ObituaryN	111	YISSA, LEVI	
Fatigue resistant fastener (A)S	72	114000		ObituaryMy	154
WITZKY, J. E.				Уосом , Н. Е.	
Stratified charge, The third cycleMr	29			Automated coal-handling system for mine-	
Stratification amplification (C)Je	72			mouth power station (A)D	54
WLODARSKI, A.		•		YOKOSE, K.	
Air pressure in the bulk of granular solid discharged from a bin (A)Ja	44	XEROX		Hunting of railway vehicle on test stand,	52
Wolf, J. A., Jr.	**	Four-in-one duplicatorD	39	Problems on (A)P	04
Whirl dynamics of a rotor partially filled		XDS for SDSD	78	Young, W. C.	
with liquid (A)Je	66			Quality assurance requirements for dry- lubricated ball bearings (A)	61
Wolf, S.				Youssi, William D.	-
Effects of nonuniform inlet velocity pro-		V		ObituaryN	111
files on flow regimes and performance	-00	the second live and find the second con-			
in two-dimensional diffusers (A)Mr WOLFE, PETER	62	reports from problem from the problem		Yu, Yi-Yuan Nonlinear vibrations of shallow spherical	
Regenerators for industrial gas turbines,		Yajnik, K.		shells (A)N	74
Design and experience with (A)Ag	68	Effect of compressibility on the perform-		0110110 (12) Hillian	
WOLOSEWICZ, RONALD M.	•	ance of a screw pump (A)Mr	64		
Appointed senior development engineer		YAMABE, M.			
at Anocut Engineering Co., Elk Grove		Reversible pump-turbine, Index method for pumping operation of (A)F	61	Lineare II	
Village, IllJe	100	YAMAGUCHI, Y.	01	There is a second or a second	
WOLSDORF, HENRY ADOLPHE	184	Reversible pump-turbine, Index method		ZAHID, ABDUZ	
Womack, B. F.	154	for pumping operation of (A)F		Appointed manager of production and en-	
Identification of a class of nonlinear con-		Yamashita, I.		gineering, Greer Hydraulics, Inc., Los Angeles, Calif	107
trol systems (A)Ap	61	Field assembly and erection of heavy-wall			
WOMEN ENGINEERS. See also SOCIETY OF		hydrocracking reactors (A)Mr	68	ZAK, M. D. Ultrasonic joining of plastic parts (A)S	72
WOMEN ENGINEERS		YAMASHITA, T.			10
Lafayette to admit womenO	104	Impingement cooling of concave surfaces		ZAMES, GEORGE Co-author with Marvin I. Freedman of	
Women engineers at NCEN	86	with lines of air jets (A)F	58	paper receiving "best" award from 1968	
Wood, Charles A.		YANCY, H. B.		Joint Automatic Control ConferenceO	114
ObituaryAp	102	Process plant application of an aircraft-		ZARETSKY, E. V.	
Wood, D. M. Effects of modal cross-coupling on metal-		type gas turbine (A)Jl	64	Effect of three advanced lubricants on	
turning operations, The (A)Ag		YANG, AN TZU Offset unsymmetric gyroscope with ob-		high-temperature bearing life (A)O	
WOOD, F. G., JR.		lique rotor using (3 x 3) matrices with		Elastohydrodynamic lubrication of a spin-	
Porpoise-shark relationship, The (A)Je	59	dual-number elements, Analysis of an		ning ball in a nonconforming groove	
WOODRUFF, GERALD E., JR.		(A)Mr		ZBELL, RICHARD	
Receives first annual Science Fair Award		YANG, K. H.		Promoted to product development super-	
of ASME, Columbus, Ohio, SectionMr	101	Yards Creek pumped storage project,		visor, Ross Operating Valve Co., De-	
Woods, B. T., Jr.		Experiences on startup and trial opera- tion at (A)Je		troit, MichD	
Revised federal standards and procedures		YANG, T.		ZEMANICK, P. P.	
for equipment acceptance in meat and poultry plants (A)		Induced flow in a pulsejet ejector with		Local heat transfer downstream of abrupt	
Wormley, D. N.	00	experimental verification, A mathe-		circular channel expansion (A)N	72
Incompressible flow in short vortex		matical model for the prediction of the		Zernow, L.	
chambers, An analytical model for the		(A)MI		Bonding materials — explosive bonding	
(A)Je		Pulsatile flow behavior in elastic systems containing wave reflection sites (A)Je		(A)S	70
WOTRING, W. F.			- 04	ZERVALLOS, GONZALO	
Processing problems in jet engines, Focus		YANG, WEI HSUIN Axisymmetric plane stress problems in		Receives Calvin W. Rice memorial scholar-	
on (A)Jl		anisotropic plasticity (A)		ship fund award of ASME Woman's Auxiliary	
WOZNIAK, LOUIS		YANG, WEN-JEI	-	ZIEBOLD, T. O.	
Representation of pump-turbine char-		Literature related to problems of gas		Pool-boiling heat transfer to liquid helium,	
acteristics (A)0	76	embolism in human body, Survey of		The influence of nuclear radiation on	
WRIGHT, DONALD		(A)		(A)Je	
Modeling vibration characteristics of a fluid drive control mechanism (A)Ag		YAO, J. T. P.		Zielke, W.	
	04	Response of bilinear structural systems		Forced and self-excited oscillations in	
WRITING. See LITERATURE		to earthquake loads (A)As	63	propellant lines (A)0	75

ZIMMERLI, KURT Promoted to vice-president, international, of Universal American Corp., New York, N. Y.; continues as corporate director of engineering and vice-presi- dent of Butterworth Manufacturing Co., textile-finishing equipment division of Universal American	97	ZIOMEK, N. L. Society support (C)	Rheological properties of canine anterior cruciate ligaments (A)	78
ZIMMERMAN, RICHARD H. Elected ASME FellowJe ZINSMEISTER, G. E. Semi-discrete approximate solution of the	102	Zoology Behavior of in vivo bone under cyclic loading (A)	leigh, N. C	
inverse problem of transient heat con- duction, A (A)	99	Countermeasures to dangerous sharks (A)	ZUDANS, Z. Advanced structural design analysis techniques, Survey of (A)	
Joins Bowen Engineering, Inc., North Branch, N. J., as administrative as- sistant to engineering vice-presidentS	114	Experimental and analytic study of (A)	ZURCHER, ERNEST Elected ASME Fellow	122

Index to TRANSACTIONS OF THE ASME

Volume 91, 1969

(Published quarterly in six journals)

A	
ABBOTT, D. D.	
Photovoltaic power technology, Status of (D)P	131
Ablation of shear thinning and shear thick-	
	105
about an ablating slender cone	632
Parallel damped dynamic vibration absorb-	282
ABSORPTION	
Radiative energy transfer in an absorbing and emitting media, An approximate method for multidimensional problems	
ofHT	502
Acceleration axes and acceleration distribu-	
tion in spatial motion I 147;	
Incompressible laminar boundary layers	151
with large accelerationAM ACHENBACH, J. D. (reviewer) Thermoelasticity (BR)AM	336
(reviewer) Thermoelasticity (BR)AM Transient shear waves in two joined elastic	142
quarter spaces	491
totic method to analyze theAM	65
ACKERMANN, R. A. Small cryogenic regenerator performance	-
Acoustics	273
Acoustic resonances and multiple pure tone noise in turbomachinery inletsP	253
Dynamic response of an infinite cylindrical shell in an acoustic mediumAM	342
Effects of sound on jets and flueric devices, A discussion of the	1161
Excitation of an elastic cylindrical shell by a transient acoustic wave	459
Intense acoustic fields and viscous fluid flows. On the interaction of	74
"Theoretical Acoustics" (BR)AM Vibration of containing structures by sound	382
in the contained fluidI	939
Vibration of the hollow sphere in an acous- tic medium	330
Adams, Douglas P. General quaternion-operator method of	
spatial kinematic synthesis, Principles	378
ADAMS, M. L. Self-energized hydrostatic shaft seals, An	
analysis ofL	658
Adhesion and agglomeration of solids	
during storage, flow, and handling—a survey 435; (D) I	448
Friction and adhesion in deformation proc- essing, Effect of die surface composition	
onL 351; (D) L 357; (AC) L Hertzian contact and adhesion of elasto-	359
mersL Wheel-rail adhesionI 839;	732
(D) I 846; (AC) I	852
Aerodynamic drag on vehicles in tunnels	694
Acclomeration	004
Adhesion and agglomeration of solids dur- ing storage, flow, and handling—a sur-	2
vey 1 435; (D) I Agrawal, G. L.	448
Nonlinear viscoelastic solid in uniaxial	
tension, An experimental study of a	558

	Code	Journal of Applied Mechanics	Published in March	June	September	December	
1		(Volume 36) Series E			(pp. 385–656) (pp. 657–912)	
	B	Basic Engineering Series D	March (pp. 1-136)	June (pp. 137-330)	September (pp. 331-564	December () (pp. 565-862)	
	HT	Heat Transfer Series C	February (pp. 1-204)	May (pp. 205-292)	August (pp. 293-464	November 1)(pp. 465–590)	
	1	Engineering for Industry Series B	February (pp. 1-292)	May (pp. 293-524)	August (pp. 525-924	November (i) (pp. 925–1222)	
	L	Lubrication Technology Series F	January (pp. 1–224)	April (pp. 225-370)	July) (pp. 371–588	October (i) (pp. 589-756)	
	P .	Engineering for Power Series A	January (pp. 1-68)	April (pp. 69-142)	July (pp. 143–222	October 2) (pp. 223–306)	
		(AC) Author's(s	') Closure (l	BR) Book Revi	ew (D) Discu	assion	
AHLBECK, Dynamic teracti	loads	caused by vehicle-tre	nek in- 	Stress	cedures and is safe use of to corrosion te	acking characterization nterpretations to failure itanium alloys	614
Combine		and forced convection a heated tube to a	trans-	pre	cracked speci	water using smooth and imensB oture testing of chro-	565
Rate of	flow of	solids, Effect of in	njected	miu pre	m-molybdenusure hydrog	m steels with high- enB	590
AIR CHAN	BERS	imbers for pumping		Nucle	en, D. W. ate boiling wention of	rith liquid nitrogen, The	1210
		B 383; (D) (ALTMA			-
ary-la	yer he	tion, and turbulent at-transfer measure oling in turbulent a	ements	8	nal diffusivit torage mater f:	ties of thermal energy ials, The determination	
		oning in turbulent a			oint	P	18
AIR POLL AIRFOILS	ution.	See Pollution, Ai	R	Therr	nal transpirat	tion for the development f gas pump, A study of	
jet fla	ap airfo	on produced by a case		ALUMI		cold hydrostatic extru-	
in ski	nt tempe in of hy	erature and thermal s personic vehicle wit	h vari-	Axisy gat	mmetric ela ion in 6061	stic-plastic wave propa- -T6 aluminum bars of	82
AKIN, J. Wave p	E.	on in a semi-infinite	elastic	Crack	der cyclic ten	rate in 7075-T6 plates sile and transverse shear	
cylind contin	nued fra	embrane, The applica	tion of AM 420	nui	m, and copp	rth of titanium, alumi- er-base alloys in heavy	
Lubrica	tion rev	riew (digest of 196'		Stres	s corrosion to m alloy in sec	esting of 7079-T6 alumi- water using smooth and	
	onized a	argon, Alignment cha		ALZHE	cracked spec IMER, W. E	imens	3 56
ALLAN, F	R. A.	bulk solids on bin		vis	coelastic ring	of Mechanical Eng	88
(D) .	C. M.	***************************************	I 492	ASM Hi	E in the fie	ld of automatic control e role played byI	,
	y-lubrica	and leakage from nated face seals		Ra	ilway mechan committee	nical engineering, Survey on progress in	
Melt lu	bricatio	n of an annular-thru L 374;	st sur- (AC) L 37	Divi	sions oplied Mechar	ogress in 1967-1968 nics	
ALLOYS Eutection	c alloy	of Pb and Sn, Some	extru-	A.	Daniel Charle tor 1956-	es Drucker, technical edi 1968Al trol	1 14
Notch-	bend st	rength of titanium,	alum!-	100,00	ASME in the	e field of automatic con hlights of the role playe	d

Publications		Finite deflections and snap-through of high circular arches (D)AM 652; (AC) AM	653	Linear optimal control problems, A new approach to the solution of B 149;	
Applied Mechanics, Journal of Daniel		Optimal arches, OnAM	880	(D) (AC) B	154
Charles Drucker, technical editor 1956- 1968AM	148	Sidesway buckling of deep circular arches under a concentrated load	325	Multiplier rule for a functional subject to	
Ammonia	140	Strongest circular arch, The - a perturba-	320	certain integrodifferential constraints, A	185
Ammonia as a reactive transpiration cool-		tion solution (D) (AC)AM Thermal buckling of shallow bimetallic	908	Nonlinear optimal control by use of extra	
ant in porous body cooling, An experi- mental study of	561	two-hinged archesAM	768	linear states to represent nonlinearities	147
Metal ammonia solutions as heat transfer		Argon		Optimal control of linear distributed par-	
fluids to -185 deg C, Analysis ofHT	194	Shock-ionized argon, Alignment charts for the properties of	555	ameter systems with constrained inputs	161
Fluid-jet amplifier with flat saturation		ARIARATNAM, S. T.	000	Optimal control problem with unrestricted	
	734	Instability in an elastic-plastic cylindrical		final time, On theB Optimal state variable feedback with	155
Performance characteristics of geometri- cally similar bistable amplifiers. The		shell under axial compressionAM 47; (AC) AM	909	bounded gainsB 251; (D) (AC) B	256
B 257; (D) B 262; (AC) B	263	ARNAS, O. A.	909	Optimum filtering for a class of linear dis-	173
Stochastic testing methods for fluid ampli- fiers B 211; (D) (AC) B	216	Transport processes in magnetosolidme-		tributed-parameter systems, OnB Piecewise continuous expansions in the	110
Vortex amplifiers, Analysis and modeling		chanics-adiabatic conditionsAM	107	identification of nonlinear systems, The	
of theB	755	ARNESON, J. L.		Rat estrous cycle, A model for the control	179
Influences of large amplitudes, transverse		Dynamically loaded journal bearings: max- imum film pressure (D)L	539	of theB	321
shear deformation, and rotary inertia on		Aronson, A. H.		Regulation and control of the thyroid- pituitary systemB	313
lateral vibrations of transversely isotro- pic plates	254	Very-short-time, very-high-temperature		Second order linear periodic system, The	
ANALYTICAL METHODS. See METHODS,		creep rupture of type 347 stainless steel and correlation of dataB	32	stability of a	210
Analytical		ASHTON, J. E.		temsB 246; (D) B 249; (AC) B	250
Anderson, H., Jr.		Stability of clamped skew plates under	***	Some vertebrate command and control	oor
Generalized Cardan motion	141	combined loadsAM	139	principles, An embodiment ofB Stochastic testing methods for fluid ampli-	295
Anderson, William J.		Ashton, J. N. Hydrodynamic journal bearings, Optimum		fiers B 211; (D) (AC) B	216
Contact conformity effects on spinning	586	design of (D)L	522	Switching analysis for constrained bilinear distributed parameter system with appli-	
torque and frictionL 308; (AC) L Herringbone-grooved gas-lubricated journal	980	Asmis, K. G.		cationsB	277
bearing, Experimental stability studies		Circulatory system with bilinear hystere-		Thermostat for precise temperature control	100
of theL 52; (AC) L Rayleigh step journal bearing	58	sis damping, On stability of a (D)AM	905	from -190 to +650 CB	168
Part II - Incompressible fluidL	641	ASPERITY		AUTOMOTIVE ENGINEERING Lubrication review: a digest of the litera-	
Residual stress induced during rolling, A study ofL 314; (AC) L 318,	655	Individual asperity-asperity collisions, The application of elastohydrodynamic lubri-		ture for 1967L	225
Andrews, C. K.	000	cation theory toL 464; (D) (AC) L	475	Optimization of a viscoelastic structure: the seat-belt problemAM	565
Screw conveyers and feeders, A study of		Load support and leakage from microas- perity-lubricated face sealsL	796		000
factors affecting the performance of (D)	223		120	AVITZUR, B. Rod-drawing, Optimum die angles and	
Andrews, R. C.	-	ATKINS, A. G. Rod-drawing, Optimum die angles and		maximum attainable reductions in (D)	
Mechanical strength of austenitic steel in		maximum attainable reductions in	070		671
1200 F sodium, air, and helium, A limited comparison of the	785	I 664; (AC) I	672	AZER, N. Z.	
Anemometers		ATTIA, A. Y. Noise of involute helical gearsI	165	Radial heat-flux density distribution in fully developed flow of liquid metals in	
Hot-wire anemometer calibration for meas- urements at very low velocityHT 241;		Auslander, D. M.	100	circular tubesHT	
(D) HT	588	Water-hammer attenuation with a tapered		AZOURY, P. H.	
Anno, J. N.		line (D)B	351	Pressure-exchanger dividers and equalizers, The performance of (D)B	
Load support and leakage from microas-	726	Ausman, J. S.		The performance of (D)	000
perity-lubricated face sealsL Annuli	120	Step-thrust gas bearing without feed grooves for two directions of shaft ro-			
Free convective flow patterns in cylindrical		tation, Investigation of the (D)L	624	R	
annuli	314	AUTOFRETTAGE		and the second second second	
Free molecule flow through slit and an- nular orifices in the presence of partici-		Residual stresses in autofrettaged cylin-		BABCOCK, CHARLES D., JR.	
pating bounding wallsAM	715	ders, Investigation of the relaxation of	63	Effect of general imperfections on the	
Interface shear stress in annular flow con- densation, On theHT	450	AUTOMATIC CONTROL		buckling of cylindrical shells, TheAM	28
Laminar flow in an annulus with arbitrary		Adrenal glucocorticoid endocrine system,		BACK, L. H. Heat transfer and laminar boundary-layer	
time-varying pressure gradient and ar- bitrary initial velocity	309	The: simulation of a biological controller	305	distributions in an internal subsonic gas	
Melt lubrication of an annular-thrust sur-		Application of controlled mechanical im-	000	stream at temperatures up to 13,900	99
faceL 374; (D) (AC) L New friction factor for laminar flow in	379	pedance for reducing machine tool vibra- tions	1057	Incompressible laminar boundary layers	
circular annuli, AAM	345	ASME in the field of automatic control,	1001	with large accelerationAM Laminar, transition, and turbulent bound-	
Ansart, J.		Highlights of the role played byB	137	ary-layer heat-transfer measurements	
Thermostat for precise temperature con- trol from -190 to +650 CB	168	Characteristics with application to fluid lines with frequency dependent wall		with wall cooling in turbulent airflow	
APPARATUS. See INSTRUMENTS AND APPAR		shear and heat transfer, A quasi meth-		through a tubeHT	477
APPELDOORN, J. K.		od of	227	BACKSHALL, R. G. Boundary-layer velocity distribution in	
Viscosity-pressure characteristics of liquids,		principle ofB	290	turbulent swirling pipe flow, TheB	
Measurement and prediction of (D)L	457	Computational procedure for the optimiza- tion of a class of distributed parameter		BADGLEY, R. H.	
APPL, F. J. Stress-concentration factor in a notched		systems, An efficientB	190	Turborotor instability: effect of initial	
strip, On (D)AM	654	Control with a multiplicative modeB 201; (D) (AC) B	205	transients on plane motionL 625; (AC) L	
APPLIED MECHANICS		Frequency response of pneumatic lines,	200	BAFFLES	
Generating functions in applied mechanics, Origin ofAM	875	Remarks on the	325	Free-convection heat transfer through an	
Ahai, S.	_,,,	tems using finite differencesB239;		enclosed vertical liquid layer with verti- cal baffle, Exploratory studies ofHT	
Hunting of railway vehicle on test stand,		(D) B 244; (AC) B	245		103
Problems on	889	Implantable valveless heart assist pumpB 284; (D) B 288; (AC) B	289	Balancing criteria and their relationship	
ARBOCZ, JOHANN Effect of general imperfections on the		Invariant imbedding and sequential inter-		to current American practice	1035
buckling of cylindrical shells, TheAM	28	polating filters for nonlinear processes	200	Balancing of the fluctuating input torques caused by inertia forces in the crank-	
Arches		Linear dynamical systems, Optimization of		and-rocker mechanisms, On the	97
Arches in bins, Theory of the formation of	434	a certain quality of complete control- lability and observability forB 228;		Completely force balancing simple link- ages, A new method for I 21;	
Elastic-plastic, work-hardening arches AM		(D) (AC) B	238	(D) (AC)	

BANKOFF, S. G.		BAUER, H. F. (reviewer)		High-speed rotors supported by air-lubri-	
Incipient boiling superheat in liquid metals		"Dynamics of Elastic Containers Partially		cated foil bearings, An experimental	
(D)	200	Filled with Liquid" (BR)AM	655	study of: Part 1—Rotation in pressurized and	
boiling (D)HT	411	BAUMANIS, A. M.		self-acting foil bearingsL	477
Nucleate pool boiling of sodium, The		Bending-bending mode of a rotating tapered-twisted turbomachine blade in-		Part 2—Response to impact and to	
mechanism of and stability criterion for (D)	328	cluding rotatory inertia and shear defor-		periodic excitationL. Hydrodynamic journal bearings, Optimum	494
BARAL M. C.	020	mationI	1017	design ofL 516; (D) (AC) L	522
Unsteady flow of a viscoelastic liquid un-		BAUMEISTER, K. J.		Hydrostatic bearings for cryogenic rocket	
der henviside-type applied magnetic		Hyperbolic heat-conduction equation—a		engine turbopumpsL. Incompressible hybrid journal bearing with	557
fieldsAM	637	solution for the semi-infinite body prob-		cavitation, A numerical solution for the	
BARNES, J. A.		lemHT	543	L	508
Pressure-exchanger dividers and equal- izers, The performance of (D)B	369	Baxt, C. B.		Increase of bearing loads due to large nor- mal stress differences in viscoelastic	
BARNHART, D. H.	500	Effect of vibration on heat transfer from		lubricantsAM	634
Radioactive sulfur oxide studies		spheresHT 337; (AC) HT	344	Inertia effects in MHD hydrostatic thrust	004
External corrosion reactions on surfaces,		Beams		bearingL	589
of (D)P	220	Built-in ends of beams and plates, Local		Infinitely wide foil bearing, The propaga- tion of disturbances in theL	120
BARNOSKI, R. L.		flexibility coefficients for theI 607; (D) I 613; (AC) I	614	Influence of water on fatigue-failure loca-	120
Mean-square response of simple mechani- cal systems to nonstationary random		Determination of stress, strain, strain-	02.0	tion and surface alteration during roll-	
excitationAM	221	rate relations from dynamic beam tests,		ing-contact lubricationL 301; (D) L 581; (AC) L	583
BARNUM, T.		On the	632	Journal bearings, Design of pivoted-pad	909
Foil bearingsL 37; (D) L	44	foundationAM	799	L 87; (D) (AC) L	103
BARRELING		Influence of dissipative heating on the loss		Lubrication problems with temperature and elasticity effects, Method for solu-	
Barreling as an example of free defor-		factor of a viscoelastically damped beam, TheI	975	tion of: Application to sector, tilting-	
mation in plastic workings, A study of	754	Nonlinear vibrations of a beam with pinned	010	pad bearingsL	634
BARRELS		ends	997	Lubrication review: a digest of the litera-	ODE
Eigenvibrations of barrel-shaped thin		Resonant beam tuned damping device, A	140	ture for 1967L Magnetohydrodynamic journal bearing (re-	225
shellsAM	629	Response of a beam subjected to a cyclic	148	port 1)L	380
BARRETT, R. E.		moving load, On theI	925	Performance characteristics of full finite	
Alkali iron trisulfate formation within de-		Stresses in largely deflected cantilever	nan	journal bearings, The effects of forced- feed lubrication onL	544
posits in an oil-fired laboratory com- bustorP 173: (AC) P	180	beams subjected to gravityAM Timoshenko beam with a moving load, The	323	Rayleigh step journal bearing	
BARRY, H. F.	200	(D) (AC)AM	653	Part II — Incompressible fluidL	641
Lubrication review (digest of 1967 litera-		Vibration and dynamic instability of a		Residual stress induced during rolling, A study ofL 314; (D) (AC) L 318,	655
ture):		beam-plate in a transverse magnetic	92	Rolling friction:	699
Friction and wearL	237	Held amountains and a second	02	I - Historical introductionL	
Bars	***	Bearings		II — Cast-iron car wheelsL	264
Axial impact of short cylindrical barsAM Axisymmetric elastic-plastic wave propa-	809	Considerations of flow in a bearing groove	010	III — Review of later investigations	269
gation in 6061-T6 aluminum bars of		(D)L 211; (AC) L Cylindrical roller bearings having crowned	212	Rough surfaces and flats, The area of con-	
finite lengthAM	533	rolling members, The effect of misalign-		tact between (AC)	224
Clamped bar, Nonlinear analysis for a	355	ment on the fatigue life ofL 294;	500	Self-acting gas journal bearings with non- circular members and additional ele-	
Harmonic dispersion analysis of incre-	300	(D) L 576; (AC) L Deep groove rolling contact parameter,		ments of flexibility, The stability ofL	113
mental waves in uniaxially prestressed		AL		Self-acting gas lubricated bearings, A re-	
plastic and viscoplastic bars, plates,	-	Dynamic stiffness of controlled hydrostatic		view of the state-of-the art for the de- sign ofL	1
and unbounded media	59	bearings, TheL. Dynamically loaded journal bearings: max-		Slider bearings at high bearing numbers,	•
lar bar loaded suddenly by a radially		imum film pressureL 534;		Higher order approximations in the	
distributed end stressAM	470	(D) L 538; (AC) L		asymptotic solution of the Reynolds	E4
Stress concentrations due to semi-circular grooves and a circular hole in a tension		Externally pressurized gas bearing tech-		equation forL 45; (D) L Spherical squeeze-film gas bearings, Load	
bar, Photoelastic comparison ofAM	892	nology since 1959, A review of develop- ments inL	161	support ofL	
Wave propagation in a finite-length bar		Externally pressurized gas bearings, Theo-		Spherical squeeze-film hybrid bearing,	
with a variable cross section (D)AM 908; (AC) AM	909	retical flow-models forL		Dynamic behavior of theL	
BARTALUCCI, B.	808	Externally pressurized gas-lubricated bear- ings, Method of theoretical investigation		Spiral-groove bearings, On the local com- pressibility effect inL	
Grinding process instabilityI	597	ofL		Spiral-grooved thrust bearings, Mean free	
BARUCH, M.		Finite-width high-speed self-acting gas-		path effect inL	69
Buckling of cylindrical shells with axial		lubricated slider (and partial-arc) bear- ings, Theory forL		Stability characteristics of gyroscopes with hydrodynamic-grooved rotor bear-	
surface tractionsAM	350	Flat disk squeeze-film bearing, Experi-		ingsL	
BASCUNANA, J. L.		ment and analysis of a-including ef-		Step-thrust gas bearing without feed	
Burning rate development in a closed ves- sel of arbitrary shape and variable vol-		fects of supported mass motionL		grooves for two directions of shaft rota-	
ume, for variable but uniform pressure		Forced vibrations of a single-degree-of-		tion, Investigation of theL 620; (D) (AC) I	624
Р	69	freedom system with Coulomb bearing		Whirl in a finite journal bearing with	
BATES, L.		friction	871	a continuous lubricating film, An ana-	
Arches in bins, Theory of the formation of	494	troconducting gases, Some character-		lytic solution for	1189
(D)	434	istics of aL	199	BEAUDROT, C. B.	
The (D)	488	Gas-bearing gyro development in the United Kingdom, Review of (D)L 218;	1700	4-bar linkages adjustable for several ap- proximate straight-line motions of a	
Entrainment patterns of screw hopper dis-	005	(AC) L		coupler point, Synthesis of I 172;	
Screw conveyers and feeders, A study of	295	Gas-lubricated hybrid journal bearings,		(AC) 1	178
factors affecting the performance of		Steady-state and dynamic analyses of		Beavers, G. S.	
(D)I	333	Gas-lubricated porous bearings, A survey		Non-Darcy flow through fibrous porous mediaAM	
BATRA, SUBHASH K.		of (D)L 222; (AC) L	224		
Contact conformity effects on spinning	594	Gas-lubricated spiral-grooved spool bear-		Beck, J. V. Flat disk squeeze-film bearing, Experi-	
torque and friction (D)L	004	ing for motion in the axial direction, Static and dynamic characteristics of		ment and analysis of a - including	
BATTERMAN, S. C.		theL	104	effects of supported mass motionL	138
Axisymmetric buckling of axially com- pressed short cylinders with free edges,		Herringbone grooved, gas lubricated jour	r-	Identification of distributed parameter systems using finite differences (D)	-
Asymptotic analysis forAM	329	nal bearing, and comparison with exper- iment. An approximate theoretical anal-		systems using tinits differences (D)	244
Instability in an elastic-plastic cylindrical	000	ysis of the static and dynamic charac-		Interferometric technique for measuring	
shell under axial compression (D)AM	909	teristics of theL 25; (D) L 34; (AC) L	35	binary diffusion coefficients, An (D)	nor
BATTON, W. D. Monte Carlo method, A modification to		Herringbone-grooved gas-lubricated journal bearing, Experimental stability studies		Spherical squeeze-film gas bearings, Load	
the—the Exodus method (D)HT	291	of theL 52; (D) L 57; (AC) L		support ofL	

Bedenig, D.		Besseling, J. (reviewer)		Вьок, Н.	
Movement of fuel elements in the core of		"Viscoelasticity" (BR)AM	383	Dynamically loaded journal bearings: maximum film pressure (D)L	538
a pebble bed reactor, Investigations on the	390	BEYER, R. T. "Theoretical Acoustics" (BR)AM	382	BLOWDOWN	-
BEER, F. P.	000	BHATTACHARYYA, A.	002	Liquid/vapor action in a vessel during	
Response of a structure moving through		Tool wear, Analysis of		blowdownP 53;	
a random load field, On the	110	Part 1: Theoretical models of flank	700	(D) P 133; (AC) P	134
BEITIN, K. I.	118	BICHARA, R. T.	790	BLUM, J.	
Response of an elastic half space to a		Vortex amplifier, Analysis and modeling		Some vertebrate command and control principles, An embodiment ofB	295
decelerating surface point loadAM	819	of theB	755	BOGDAN, R. C.	1
BELL, JAMES F. (author)		BIFURCATION		Complex harmonic analysis of plane mech-	
"The Physics of Large Deformation of Crystalline Solids" (BR)AM	384	Continuation of Newton's method through bifurcation points	425	anisms: programming on digital com-	
Bellows	904	Bins	4.00	puters and experimental examplesI	27
Flow-induced vibrations of metal bellows		Arches in bins, Theory of the formation		BOGY, DAVID B.	
I 1	196	of	434	Edge-bonded dissimilar orthogonal elastic wedges under normal and sheer loading	
BENDING		Bin loads, On the theory ofI Flow of dry bulk solids on bin walls	339	(AC)AM	652
Bending-bending mode of a rotating tapered-twisted turbomachine blade in-		1 489; (D) I	492	Elastic-plastic plane-strain solutions with	528
cluding rotatory inertia and shear defor-		Flow patterns of granular materials in		separable stress fieldsAM	020
mation 1	017	flat-bottom bins 406; (D) (AC) I	413	Boilers	
End effect bending stresses in cables	750	Flowability of bins, Effect of initial pres-		Advancing boiler steam conditions P 121; (D) P 127; (AC) P	128
Fracture criteria for combined extension	100	sures on	395	Internal corrosion of high-pressure boilers,	
and bending, An experimental investiga-		Granular solid discharged from a bin, Air pressure in the bulk ofI	382	A research study on-final reportP	75
General instability of inclined-stiffened	841	BIOMECHANICS AND HUMAN FACTORS.	000	Boiling	
	403	See also BIOMEDICAL ENGINEERING;		Correlation of pool-boiling data, A new- including the effect of heating surface	
In-plane bending of curved circular		BIOTECHNOLOGY		characteristicsHT	245
tubes (D)	522	Adrenal glucocorticoid endocrine system,		Film boiling heat transfer from an oscil-	
num, and copper-base alloys in heavy		The: simulation of a biological con-		lating sphere	272
sectionsB	830	troller The engapizing	305	Heated-surface vibration on pool boiling,	414
Vibratory bending of damped laminated		Complex living systems, The organizing principle ofB	290	The influence ofHT	152
platesI 1	081	Corrosion fatigue in surgical implants	-	Hysteresis effects in surface boiling of	100
Bendixsen, C. L. Nonmechanical solids flow control de-		I also had a second asset as a second as a second asset as a second as a	581	water	160
vice in the waste calcining facility,		Implantable valveless heart assist pumpB 284; (D) B 288; (AC) B	289	hydrogen 513;	
	385	Lubrication in biomechanical joints, The		(D) I 519, 919; (AC) I 519,	920
BENEDICT, R. P.		role ofL 320; (D) (AC) L	327	Incipient boiling superheat in liquid metals (D)HT 198;	
Engineering analysis of experimental		Lubrication of animal joints 329; (D) (AC) L	340	(AC) HT	200
	131	Optimization of a viscoelastic structure:	940	Influence of surface characteristics on the	
Benson, D. Herringbone grooved, gas lubricated journ-		the seat-belt problemAM	565	boiling of cryogenic fluids, TheI	
al bearing, and comparison with experi-		Regulation and control of the thyroid- pituitary system	313	Mass-transfer model in subcooled nucleate boilingHT 404;	
ment, An approximate theoretical analy-		Salt effects in mucin lubricationL	371	(D) HT 411; (AC) HT	412
sis of the static and dynamic character-	0.7	Some vertebrate command and control		Microlayer thickness in nucleate boiling,	
istics of theL 25; (AC) L	35	principles, An embodiment ofB	295	An analytical expression of	
BERG, C. A. Astatic equilibrium in Saint-Venant's		Vehicle vibration analysis using frequency domain techniquesI	1075	inception of	
	392	BIOMEDICAL ENGINEERING	2010	Nucleate pool boiling of sodium, The mech-	
BERGER, B. S.		Peristaltic transport (D) (AC)AM	379	anism of and stability criterion for HT 315; (D) HT 328; (AC) HT	329
Dynamic response of an infinite cylin-		BIOTECHNOLOGY		Pool boiling heat transfer from teflon-	
drical shell in an acoustic medium	240	Rat estrous cycle, A model for the control		coated stainless steelHT 364;	
Vibration of the hollow sphere in an acous-	342	of theB	321	(D) HT 369; (AC) HT Pool-boiling heat transfer to liquid helium,	
	330	Bird, J. O.		The influence of nuclear radiation	
Bergles, A. E.		Nonlinear viscoelastic solid in uniaxial tension, An experimental study of a		on	
Heat transfer and pressure drop in tape-		AM	558	(D) I 506; (AC) I	
generated swirl flow of single-phase waterHT 434; (AC) HT	442	Візнор, Е. Н.		Temperature profiles measured in the thermal sublayer of water, Freon-113,	
Heat transfer in rough tubes with tape-	***	Free convective flow patterns in cylindri-		and methyl alcohol during pool boiling,	
	443	cal annuliHT 310; (AC) HT	914	A study of (D)HT 196;	
Heated-surface vibration on pool boiling, The influence of	159	BISSHOPP, K. E.	914	(AC) HT Temperatures associated with bubbles in	
BERKMAN, FRANK	102	Rodrigues' formula and the screw matrix		subcooled pool boiling, Measurement	
Complete response of distributed sys-		I 179; (AC) I	185	of	123
tems controlled by a finite number of		Spatial kinematic synthesis by means of		film boiling from vertical plate, Analy-	
linear feedback loopsI	1063	a stretch-rotation tensor, On a general method of		tical derivation forHT	452
Completely force balancing simple link- ages, A new method for		(AC) 1		Void fractions in subcooled flow boiling	
(AC) I	26	BLACKKETTER, D. O.			471
BERKOF, R. S.		Contact stress between two-dimensional		BOLLFRASS, C. A.	
Berman, I.		finite elastic bodiesAM	397	Application of primary sealing criteria to a self energized gasket (D)	
Distributed loads on long cylinders, Solu-		BLADES		Bolts	
tions for	623	Bending-bending mode of a rotating tapered-twisted turbomachine blade in-		Axisymmetric, nonidentical, flat face	
BERNACHE, P. L.		cluding rotatory inertia and shear de-		flanges with metal-to-metal contact	t
Flow of dry bulk solids on bin walls	489	formation		beyond the bolt circle	
BERT, C. W.		Turbine blade vibration due to nozzle wakes		Bonding (B) 1 021, (AC)	. 020
Nonlinear vibrations of a beam with		Vibration amplitudes of compressor blades		Forced transverse vibration of a solid	1
pinned ends	997	resulting from scatter in blade natural		viscoelastic cylinder bonded to a thir	1
Wave propagation in a finite-length bar with a variable cross section (D)		frequencies	188	casing	827
with a variable cross section (D)	908	(D) P 187; (AC) P	100	Stresses in fiber-reinforced composites with imperfect bonding	
BERTHIAUME, P. P.		Elastic deformation of a circular rod of		Book Reviews. See also Literature	300
Dynamic measurement of absolute track		finite length for an axially symmetric		AVAILABLE	
propertiesI	855	end face loading, TheAM		"Advances in Materials Research" Vol	
BERTHOLF, L. D.		BLANKS		3AN	911
Axisymmetric elastic-plastic wave propa- gation in 6061-T6 aluminum bars of		Cup drawing from an anisotropic blank		"Dynamic Plasticity"AN "Dynamics of Elastic Containers Partially	
finite lengthAM	533		771	Filled with Liquid"AN	

BOOK REVIEWS (Continued)		Thomas - disting affects on the lands of			
		Thermal radiation effects on the laminar		BUCHER, J. H.	
"Magnetohydrodynamics Energy Conver-		free convection boundary layer of an	00	Yielding and flow characteristics of low-	
sion"AX	655	absorbing gasHT	37	carbon steel between ambient and liquid	
"Optimization in Control Theory and	100	Three-dimensional boundary-layer flow	200	nitrogen temperaturesB	603
Practice"AM	383	about an ablating slender coneB	632	BUCKETS	
"Physics of Electric Propulsion"AM	655	Turbulent boundary layer, with emphasis		Diakoptics in the determination of tur-	
"Standard Handbook of Lubrication En-		on interfacial conditions, A two-region	004	bine bucket frequencies by the use of	
gineering"L 370;		model of the	664	perturbations, An application ofI	1029
"Stromungsmechanik"AM	382	Turbulent natural convection boundary	E177		2000
Stromungsmechanik"AM	911	layers, An experimental study ofHT Velocity and temperature profiles in the	517	BUCKLEY, D. H.	
"The Physics of Large Deformation of				Friction and adhesion in deformation	
Crystalline Solids"AM	384	turbulent boundary layer above an	***	processing, Effect of die surface com-	
"Theoretical Acoustics"AM	382	evaporating liquid filmHT	186	position on (D)L	357
"Theory of Inelastic Structures"AM	383	Wall temperature and Prandtl number		Buckling	
"Thermodynamics"AM	382	effects on turbulent boundary layer		Axisymmetric buckling of axially com-	
"Vibration and Shock in Damped Mechan-		thickness and shape factors for sub-		pressed short cylinders with free edges,	
ical Systems"AM	383	sonic compressible gas flow over a flat		Asymptotic analysis forAM	329
"Viscoelasticity"AM	383	plateP	281	Buckling of a column with random initial	020
BOOKER, J. F.		BOWMAN, H. F.		deflections, TheAM	233
		Pool-boiling heat transfer to liquid helium,		Buckling of composite and homogeneous	200
Dynamically loaded journal bearings:		The influence of nuclear radiation on		isotropic cylindrical shells under axial	
maximum film pressureL 534;		I 501; (AC) I	507	and radial loadingAM	791
Turbonaton instability offers of initial	541	BOYD, K. E.		Buckling of cylindrical shells with axial	
Turborotor instability: effect of initial		Laminar inward flow of an incompressible		surface tractionsAM	350
transients on plane motionL 625;		fluid between rotating disks, with full		Circular ring of arbitrary section, Three-	000
(AC) L	632	peripheral admission (AC)AM	376	dimensional deformation and buckling of	
BOOSER, E. R.		BOYER, P. D.		aI	
		Gas-bearing gyro development in the		Effect of general imperfections on the	
(reviewer) "Standard Handbook of Lubri-		United Kingdom, Review of (D)L	918	buckling of cylindrical shells, TheAM	
cation Engineering" (BR)L	370	Bradley, R. H.	210	Elastic postbuckling behavior of stiffened	40
BOOTHE, W. A.					mo.4
Performance characteristics of geometri-		Correction for the ordinary Mangler dis-		and barreled cylindrical shellsAM	
cally similar bistable amplifiers, The		placement thickness for slender cones		Linearization of the prebuckling state and	
	000		544	its effect on the determined instability	-
(D)B	262	Bradshaw, P.		loads, TheAM	775
BOOTHROYD, R. G.		Two-dimensional turbulent wall jet in		Shrink buckling of thin circular rings (D)	
Adhesion and agglomeration of solids		a moving stream, Some properties of the		(AC)AM	
during storage, flow, and handling— a		(D)AM	910	Sidesway buckling of deep circular arches	
survey (D)I	440	BRAIDEN, PAUL M.		under a concentrated loadAM	
Particulate suspensions, Similarity in gas-	448	Investigation of face-milling tool tempera-		Snap-through buckling of a viscoelastic	
	202	tures by simulation techniques (D)		Von Mises truss in a random tempera-	
borne flowingI	303		779	ture fieldAM	338
Bores		Brakes		Thermal buckling of shallow bimetallic	
Traveling loads in a cylindrical bore, Re-		The state of the s		two-hinged archesAM	768
sponse of an infinite elastic medium		Shoe-type brake-clutch systems, Gener-		BUCKMANN, P. S.	
	K1	alizing the analysis of	701	Wear ring seals for high-speed, high-pres-	
toAM	51	(D) (AC) I	701	sure turbopumps, Evaluation ofL	
Boring		Briggs, D. L.		438; (AC) L	
Prevention of chatter vibration in boring		Switching analysis for constrained bilinear			
operations, Some considerations on		distributed parameter system with ap-		BUDIANSKY, BERNARD	
717; (D) I 729; (AC) I	790	plicationsB	277	Buckling of a column with random initial	
111; (D) 1 129; (AC) 1	100	BRITTLENESS		deflections, TheAM	233
Boron		Ultrasonic nondestructive measurement		Optimal arches, OnAM	880
Current status of titanium-boron com-		of irradiation damage in steelB	509	BUECKNER, H. F.	
posites for gas turbinesP	297		990	Diakoptics in the determination of tur-	
posites for gas curbines		Broersma, G.			
BOUNDARY LAYERS		Pneumatic transport of fine granular		bine bucket frequencies by the use of	1000
Accelerating turbulent boundary layers,		materialI	315	perturbations, An application ofI	1025
An aspect of heat transfer inHT	229	Brown, Forbes T.		BULK MATERIALS	
Analyzing the turbulent boundary layer		Characteristics with application to fluid		Flow of bulk solids, Limit plasticity ap-	
with arbitrary pressure gradient, A new		lines with frequency dependent wall		proach to some cases of	357
integral method forB 371;		shear and heat transfer, A quasi method		Flow of dry bulk solids on bin wallsI	
(D) B 377; (AC) B	378			489; (D) 1	492
Boundary-layer velocity distribution in	010	ofB 217;	007	BURFORD, LEE W.	
turbulent swirling pipe flow, TheB	728	(AC) B	227		
Effects of curvature on laminar boundary	120	Small-amplitude frequency behavior of	270	Heat transfer coefficients and friction	
layers in sink-type flows		fluid lines with turbulent flowB	678	factors for longitudinally grooved	455
(D) B 358; (AC) B	359	Water-hammer attenuation with a tapered		tubesHT	400
	000	line (D)B	351	BURMESTER POINTS	
Free convection through vertical plane layers — moderate and high Prandtl		Brown, R. N.		Calculation and construction of the Bur-	
myers — moderate and nigh Francti	401	Analog simulation of a bilinear hysteretic		mester points for five positions of a	
number fluids	401	system undergoing random vibration		moving planeI	
			1051	Burton, C. L.	
distributions in an internal subsonic gas		Brown, R. T.			
stream at temperatures up to 13,900	-00			Internal corrosion of high-pressure boilers,	
deg R	83	Application of primary sealing criteria to		A research study on — final reportP	75
Heat transfer in the oscillating turbulent	000	a self energized gasketI 553;	801	Bushnell, D.	
boundary layerP	239	(AC) I	561	Axisymmetric buckling of axially com-	
Improved linearized velocity profiles for		BROWNE, B. H., JR.		pressed short cylinders with free edges,	
turbulent free shear layersAM	657	Statistical estimation and elimination of		Asymptotic analysis forAM	
Incompressible laminar boundary layers		thermal network model errorsHT	554	BUSSELL WILLIAM H.	
with large accelerationAM	336	Brown-Grant. K.			
Integral methods for predicting shear				Four bar function generators, Automatic	
layer behavior, OnAM	673	Regulation and control of the thyroid-		design ofI	190
Laminar, transition, and turbulent bound-		pituitary systemB	313		
ary-layer heat-transfer measurements		Bruff, W.			
with wall cooling in turbulent airflow	TOUR'S	Powder materials, Some characteristic			
through a tubeHT	477	qualities ofI	323	0	
Microlayer thickness in nucleate boiling,		Bunnles		· ·	
An analytical expression ofHT	178			and the same of the same of	
Prediction of turbulent boundary layer		Oscillation of a gas bubble in an infinite		Captive	
growth in adverse pressure gradients,		fluidHT 157;	000	CABLES	
A modified entrainment theory for		(errata) HT	292	Bent submarine cables, Axial stresses in	
theB	649	Steam bubble collapse, On some aspects	-	armor wires of	
Semi-infinite strip problem with built-in		ofHT	537	(D) I 691; (AC) I	
edgesAM	320	Temperatures associated with bubbles in		End effect bending stresses in cables	
Temperature profiles measured in the		subcooled pool boiling, Measurement	***	АМ	750
thermal sublayer of water, Freon-113,		ofHT	123	CADDELL, R. M.	
and methyl alcohol during pool boiling,		BUCHANAN, G. R.		Rod-drawing, Optimum die angles and	
A study of (D)HT 196;		Clamped bar, Nonlinear analysis for		maximum attainable reductions inI	
(AC) HT	197	AAM	355	664; (AC) I	

CADMAN, R. V.		Journal bearings, Design of pivoted-pad		Synthesizing the four-bar crank-rocker	
Electrodynamic oscillating compressors			103	mechanism, An analytical method for	48
Part 1 — Design based on linearized loads	656	Lubrication problems with temperature and elasticity effects, Method for		CHEN, J. C.	45
Part 2 — Evaluation of specific designs	000	solution of:		Incipient boiling superheat in liquid metals	
on gas loadsB	664	Application to sector, tilting-pad bear- ingsL	634	(AC)HT	200
Rolamite-geometry and force analysisI 186; (AC) I	191	Spiral-groove bearings, On the local com-	034	CHEN, P. Finitely and infinitesimally separated	
CAIRNS, J. R.		pressibility effect inL	79	position problems and kinematic synthe-	
Water jet pumps, Optimum design of		Turborotor instability: effect of initial transients on plane motion (D)L	630	sis, A unified theory for theI	203
CALIBRATION P 62; (AC) P	140	CASTERLINE, J.	000	Finitely and infinitesimally separated	
Hot-wire anemometer calibration for mea-		Critical heat flux measurements in a 16-		position synthesis of binary links and combined link chains, Design equations	
surements at very low velocityHT 241;		rod simulation of a BWR fuel assembly		for theI	209
(D) HT	588	(AC) HT	362	CHEN, R. Y.	
CALORIMETER		CAUGHEY, T. K.	002	Slip flow in the entrance of a tubeB	545
Calorimeter apparatus to measure the enthalpy difference of heavy water, A		Stability of continuous dynamic systems		Transition from supersonic to subsonic flow at low Reynolds numbers in a tube,	
HT	235	with parametric excitationAM	212	OnAM	146
CAMERON, A.		CAVITATION		CHEN, W. T.	
Considerations of flow in a bearing groove	010	Calcium-sulfate scale on a heated cylinder in crossflow, The formation of, and its		Elastic orthotropic ellipsoid in a centrifu- gal force field, An	313
(AC)L Pitting of steel under varying speeds and	212	removal by acoustically induced cavita-		CHENG, D. H.	010
combined stressesL 282; (AC) L	293	tionHT	111	In-plane bending of curved circular tubes	
CAMPBELL, J. L.		Cavitation tests on hydrofoils designed for accelerating flow cascade:		(AC)I	522
Pulsatile flow behavior in elastic systems containing wave reflection sitesB	95	Report 4—Three profiles designed for		CHENG, HERBERT S.	
CANNON, J. N.	30	high head Kaplan turbine B 423;		Behavior of hydrodynamic, noncontacting face seals (AC)L	218
Heat transfer to a fluid flowing inside a		(D) (AC) B Cumulative collapse of cavitation cavities,	432	High-speed noncontacting gas seals, Per-	
pipe rotating about its longitudinal		On (D) (AC)B	857	formance characteristics of spiral-groove	
CARBON DIOXIDE	135	Incompressible hybrid journal bearing with		and shrouded Rayleigh step profiles for	60
Heat transfer to carbon dioxide in the		cavitation, A numerical solution for the	F00	CHENG, K. C.	00
immediate vicinity of the critical point		Comming	508	Combined free and forced laminar convec-	
CHT	16	CAVITIES Cumulative collapse of cavitation cavities,		tion in horizontal rectangular channels,	**
CARDAN MOTION		On (D) (AC)B	857	Numerical solution for	59
Generalized Cardan motion	141	Flow in a two-dimensional channel with		lygonal ducts with uniform peripheral	
CAREN, R. P.		a rectangular cavity	897	heat fluxHT	156
Radiation transfer from metal to a finely		cal cavity, TheAM	644	CHENG, S. L.	
divided particulate mediumHT	154	Progressive waves on swirling cavity flow		Multiple scattering of elastic waves by parallel cylindersAM	523
CARGO HANDLING Lateral stability of road and rail trailers		in a circular pipe	714	CHENG, SHUN	-
I can stability of road and rail trailers	1069	cients for supersonic open cavity flow		. Buckling of composite and homogeneous	
CARLETON, A. J.		HT	168	isotropic cylindrical shells under axial	
Screw conveyors and feeders, A study		CELMINS, AIVARS		and radial loadingAM CHERN, JENN-MING	791
of factors affecting the performance of		Computation of hollow cylinder explo-		Elastic-plastic, work-hardening arches AM	247
(AC) I	334	sions, A method for theAM	217	CHIANG, T.	
CARLEY, C. T.		CHAN, H. S. Y.		Pulsating flows in infinite and finite coni-	
Free convective flow patterns in cylindri-		Foulkes mechanism in portal frame design for alternative loads, OnAM	73	cal nozzles, Analysis of	
cal annuliHT 310; (AC) HT	314	CHAN, J.		Dynamic behavior of theL	
CAROW, D.	0.0	Calorimeter apparatus to measure the en-		CHICUREL, R.	
Herringbone grooved, gas lubricated		thalpy difference of heavy water, A	007	Shrink buckling of thin circular rings	
journal bearing, and comparison with		Course V T	235	(AC)AM Chiu, W. S.	377
experiment, An approximate theoretical analysis of the static and dynamic		CHANG, K. T. Elastic-plastic stress distribution in a com-		Real fluid flow over yawed circular cylin-	
characteristics of theL 25;		pressed ring (AC)B	563	ders, On (AC)B	132
Com I I	35	CHANG, T. S.		Сніи, Ү. Р.	
CARR, J. J. Process control and resting of elastomers		Potential vortex flow adjacent to a sta-		Contact problem of cylinders containing a shallow longitudinal surface depression,	
and elastomeric compositions (AC)L	211	tionary surface (D)AM	375	On theAM	
CARSON, W. W.		CHANG, Y. P.		Individual asperity-asperity collisions, The	t t
Monte Carlo method, A modification to		Radiant heat exchange, A rapid itera- tion method forHT	581	application of elastohydrodynamic lubri-	
the—the Exodus method (AC)HT	291	CHANNELS		CHO, S. M.	410
CARTER, ANTHONY F.		Combined free and forced laminar convec-		Oscillation of a gas bubble in an infinite	
Diffuser for high-performance centrifugal compressors, A novel low-cost (D)		tion in horizontal rectangular channels,	80	fluidHT 157; (errata) HT	292
P	46	Numerical solution forHT Flow in a two-dimensional channel with	59	Steam bubble collapse, On some aspects of	
CXRUŢAŞU, I.		a rectangular cavityAM	897	Cho, Sung Hwan	
Complex harmonic analysis of plane mech-		Straight channel diffuser performance at		Heat-conduction problems with melting or	
anisms: programming on digital com- puter and experimental examplesI	27	high inlet Mach numbers	418	freezing	
Cascades		CHAO, B. T.	410	Снои, Р. С.	
Cavitation tests on hydrofoils designed for		Transient heat and mass transfer to a		Finite deflections of an elastic circular	
accelerating flow cascade:		translating droplet HT 273; (AC) HT	281	plate with a central holeAM	285
Report 4—Three profiles designed for high head Kaplan turbineB 423;		Characteristics		CHOU, S. I. Bonded elastic mounts under combined	
(D) (AC) B		Characteristics with application to fluid		loading of shear and normal forces	
Stream deflection produced by a cascade		lines with frequency dependent wall shear and heat transfer, A quasi method		Сном, С.	
of jet flap airfoilsB	553	of		High pressure clearance seal, A (D)I	215
CASINGS		CHATTER		Сном, С. L.	
Forced transverse vibration of a solid viscoelastic cylinder bonded to a thin		Chatter vibrations, The modulation of		Explicit heat conduction equations a	
casingAM		Low-speed shatter effects. An explanation		thermally insulated surfaceH7	446
Cass, R.		Low-speed chatter effects, An explanation of		Chow, C. Y.	
Dynamic measurement of absolute track		Prevention of chatter vibration in boring		Behavior of hydrodynamic, noncontacting face seals (AC)	
properties	855	operations, Some considerations on		High-speed noncontacting gas seals, Per-	
CASTELLI, V.			730	formance characteristics of spiral-groove	
High-speed noncontacting gas seals, Per- formance characteristics of spiral-groove		CHEN, FAN Y. Natural frequencies for a system of equal		and shrouded Rayleigh step profiles for	
and shrouded Rayleigh step profiles		inertias and equal spring stiffnesses, On		Spiral-grooved screw seal for turbulen	
for		evaluation ofAM		operation, Theoretical analysis ofl	

CHRISTENSEN, H. D.		COBBLE, M. H.		Stresses in fiber-reinforced composites	
Contact stress between two-dimensional		Transient thermal stresses in plates hav-		with imperfect bondingAM	865
finite elastic bodiesAM CHU, HUAI PU	397	ing a distributed source and arbitrary time-dependent surroundingsAM	940	Syntactic foams, The static strength of	551
Notch-bend strength of titanium, alumi-		Codes and Standards	348	Wave-front analysis in composite ma-	001
num, and copper-base alloys in heavy		Ellipsoidal heads, An evaluation of ASME		terialsAM	497
sectionsB	830	I	636	COMPRESSIBILITY	
Stress corrosion testing of 7079-T6 alumi-		Performance Test Codes		Spiral-groove bearings, On the local com-	
num alloy in seawater using smooth and precracked specimensB	565	Engineering analysis of experimental dataP 21; (D) P 127; (AC) P	131	pressibility effect inL	79
CHU, W. H.	505	Coeling, K. J.	201	Compression	
MHD flow in a rectangular duct of arbi-		Incipient and nucleate boiling of liquid		Axisymmetric buckling of axially com- pressed short cylinders with free edges,	
trary conductivity for arbitrary Hartman		hydrogen 513; (AC) I 519,	920	Asymptotic analysis forAM	329
number, OnAM	702	COHEN, B. M.		Compression of a thin plastic mass be-	-
CHUKWUJEKWU, S. E.		Heat transfer by conduction and radiation		tween two elastic cylindersL 342;	
Plastic limit pressures of reinforced open-		with temperature - dependent thermal conductivity	159	(D) L 349; (AC) L	350
ings in cylindrical shells, Experimental		Cohen, R.	100	Crack growth under cyclic compression B 625; (D) (AC) B	631
investigation of the 710; (AC) I	716	Electrodynamic oscillating compressors		Effect of axial compression on low-cycle	001
CHUPP, RAYMOND E. Impingement cooling of concave surfaces		Part 1—Design based on linearized loads		fatigue of metals in tensionB	780
with lines of circular air jets (D)P	155	B	656	Instability in an elastic-plastic cylindri-	
Cicci, F.		Part 2—Evaluation of specific designs for gas loadsB	664	cal shell under axial compressionAM 47; (D) (AC) AM	909
Reducing the response of integrally stif-		Colangelo, V. J.		Permanent compression of a rigidly con-	000
fened structures to random pressures,		Corrosion fatigue in surgical implants		tained granular bed following impact	
Methods ofİ	1203	В	581	with a rigid bodyAM	545
CIESLIK, WALTER J.		COLBOURNE, J. R.		Compressors	
Helium face seal application in a liquid		Approximate roots of Flügge's character-		Compressor or pump stage for minimum	
oxygen pump, AL	668	istic equation for the closed cylindrical	959	fluctuating lift, The quasi-steady de-	
Cioclov, D.		shellAM	352	sign of aP	133
Pitting of steel under varying speeds and combined stresses (D)L	290	COLE, R. R.		Diffuser for high-performance centrifu-	100
Circles	200	One-dimensional equilibrium cutting gap in electrochemical machining, Prediction		gal compressors, A novel low-costP	
Plane strain in plasticity, The application		of the 755; (AC) I	765	37; (D) (AC) P	46
of an orthogonal net of circles to the		COLEMAN, R.		Electrodynamic oscillating compressors Part 1 — Design based on linearized	
problem ofAM	736	Linearization for numerical solution of the		loadsB	656
CIRCUITRY		Reynolds' equationL	506	Part 2 - Evaluation of specific de-	
Web conveyance systems, Equivalent cir-		COLLAPSE		signs for gas loadsB	664
cuit representation ofAM	316	Cumulative collapse of cavitation cavities,	055	Vibration amplitudes of compressor blades	
CIRCULATORY SYSTEMS		On (D) (AC)B Steam bubble collapse, On some aspects	857	resulting from scatter in blade natural frequenciesP 182;	
Circulatory system with bilinear hysteresis		ofHT	537	(D) P 187; (AC) P	188
damping, On stability of aAM 76; (D) AM 905; (AC) AM	906	COLLINS, P. L.		COMPUTATION	
CLAMPS	200	Identification of distributed parameter		Computation of hollow cylinder explo-	
Transient stresses at a clamped support		systems using finite differences B 239;		sions, A method for theAM	217
of a circular cylindrical shellAM		(AC) B	245	Computational procedure for the optimiza-	
CLARK, R. A.		Collisions		tion of a class of distributed parameter systems, An efficientB	
In-plane bending of curved circular tubes		Individual asperity-asperity collisions, The		Computer-Aided Design	100
(D)I	521	application of elastohydrodynamic lubri- cation theory toL 464; (D) (AC) L	475	Computerized determination and analysis	
CLARKSON, B. L.			410	of cost and production rates for ma-	
Reducing the response of integrally stif-		COLUMNS Buckling of a column with random initial		chining operations:	
fened structures to random pressures,		deflections, TheAM	233	Part 2 — Milling, drilling, reaming, and	
Methods of	1200	Transverse vibration of a viscoelastic col-		tappingI	585
CLAYTON, B. R. Effects of curvature on laminar boundary		umn with initial curvature under peri-		COMPUTERS	
layers in sink-type flows (D)B		odic axial loadAM	814	Analog simulation of a bilinear hyster- etic system undergoing random vibra-	
CLEARANCES		Colsher, R. J.		tionI	
Effect of tolerance and clearance in linkage		Self-energized hydrostatic shaft seals, An analysis ofL	658	Complex harmonic analysis of plane	
design 1 198; (D) (AC) I	202	Colver, C. Philip	000	mechanisms: programming on digital	
CLIFTON, R. J.		Temperature profiles measured in the ther-		computers and experimental examples	
Elastic-plastic boundaries in combined		mal sublayer of water, Freon-113, and		Statistical estimation and elimination of	
longitudinal and torsional plastic wave		methyl alcohol during pool boiling, A		thermal network model errorsHT	
propagation (AC)AM (reviewer)	654	study of (D)HT	196	Comstock, T. R.	
"Dynamic Plasticity" (BR)AM	382	COLWELL, G. T.		Application of controlled mechanical im-	
"The Physics of Large Deformation of		Low density nozzle flowB	81	pedance for reducing machine tool vibra-	
Crystalline Solids" (BR)AM	384	Combustion		tions	1057
CLOUD, R. L.		Burning rate development in a closed ves- sel of arbitrary shape and variable vol-		Chatter vibrations, The modulation of (D)	
Assessment of the plastic strength of pres-		ume, for variable but uniform pressure			011
sure vessel nozzles (AC)I	524	P	69	CONCRETE	
CLOUGH, W. R.		Convective heat transfer in a gas-fired		Failures of reinforced concrete grain	
Alloy steel dynamic strain-aging and notch brittle fracture		pulsating combustorP 48;	107	silos	476
Anisotropic plate steel, Neck-and-split ten-		(D) P 134; (AC) P Massive recirculation as a method of mini-	137		Maria.
sile fracture ofB	39	mizing corrosion in the combustion of		CONDENSATION Binary, gravity-flow film condensation	
Very-short-time, very-high-temperature		residual fuelsP 198;		Binary, gravity-riow riiii condensation	
creep rupture of type 347 stainless steel and correlation of data		(D) P 205; (AC) P	206	Film condensation, film evaporation, and	
	32	Combustors		single-phase heat transfer for liquid	
CLUTCHES Friction clutch reverse-reduction gears		Alkali iron trisulfate formation within de-		Prandtl numbers from 10° to 10°, An	
for the GTS Adm. Wm. M. Callaghan,		posits in an oil-fired laboratory com- bustorP 173; (D) (AC) P	180	analysis ofHT Film condensation in the presence of a	
TheP	245		190	noncondensable gasHT	447
Shoe-type brake-clutch systems, Gener-		COMPOSITES Current status of titanium-boron com-		Interface shear stress in annular flow	
alizing the analysis of		posites for gas turbinesP		condensation, On theHT	
	101	Dispersive pulse propagation in laminated		Laminar film condensation of a flowing vapor on a horizontal cylinder at nor-	
COATINGS Profile measurement of coated abrasive		composites, Experiments on, and com-		mal gravityHT	
surfaces 781; (D) I 786; (AC) I		parison with theoryAM		Conduction	
Cobb. R. O.		Dispersive pulse propagation parallel to the interfaces of a laminated composite		Effective slip coefficients for coupled con-	
Pool boiling heat transfer from teflon-		AM	479	duction-radiation problemsHT	
coated stainless steelHT 364;		Plastic failure of fiber-reinforced ma-		Explicit heat conduction equations at	t
(AC) HT	370	terialsAM	542	thermally insulated surfaceHT	446

CONDUCTION (Continued)		Thermal transients in plane walls,		Copper	
Heat conduction in thin surface layers,		cylinders, and spheres, Effect of con-		Notch-bend strength of titanium, alumi-	
An improved theory forHT	585	tainer capacitance onHT	67	num, and copper-base alloys in heavy	
Heat-conduction problems with melting		Transient heat transfer in closed con-		sectionsB	830
or freezingHT 421; (D) (AC) HT	400	tainers after gas injection	461	Sliding damage on the (001) surface of	
Heat transfer by conduction and radiation	426	sound in the contained fluidI	939	copper single crystal, Anistropy of	***
with temperature-dependent thermal		CONTINUA	000	Canada	652
conductivityHT	159	Continuum approach to the solution of the		Corners Supported plate, Collocation solu-	
Hyperbolic heat-conduction equation — a		contact of rotating circular surfaces,		tion for aAM	884
solution for the semi-infinite body		A discreteL	387	Corona	00.
Improving the accuracy of Crank-Nicol-	543	Uniaxial loading in an elastic continuum		Effect of vortices induced by corona dis-	
son numerical solutions to the heat-con-		with a doubly periodic array of material		charge on free-convection heat transfer	
duction equation	189	discontinuitiesAM	134	from a vertical plateHT	
One-dimensional heat-conduction problems	100	CONVECTION		427; (D) HT 432; (AC) HT	433
with nonlinear boundary conditions, The		Cellular convection by lateral walls,	148	CORROSION AND DEPOSITS	
transient temperature distribution in		Suppression of	145	Alkali iron trisulfate formation within	
IIT	77	transfer from a heated tube to a trans-		deposits in an oil-fired laboratory com-	
CONDUCTIVITY		verse air streamHT	457	bustorP	100
MHD flow in a rectangular duct of arbi-		Combined free and forced laminar convec-		173; (D) (AC) P Calcium-sulfate scale on a heated cylinder	180
trary conductivity for arbitrary Hart-		tion in horizontal rectangular channels,		in crossflow, The formation of, and its	
man number, OnAM	702	Numerical solution forHT	59	removal by acoustically induced cavita-	
Cones		Convective heat transfer in a gas-fired		tionHT	111
Correction for the ordinary Mangler dis-		pulsating combustorP 48; (D) P 134; (AC) P	137	Corrosion-fatigue crack propagation stud-	
placement thickness for slender cones		Effect of vortices induced by corona dis-	101	ies of some new high-strength structur-	
В	544	charge on free-convection heat trans-		al steelsB	570
Dynamic response of cylindrical and coni-		fer from a vertical plateHT		Corrosion fatigue in surgical implants	E01
cal panels, TheAM	271	427; (D) HT 432; (AC) HT	433	Corrosion of carbon steel tubed feedwater	581
Heat transfer for flow in a coneHT	173	Forced laminar flow convection in a		heaters, Effect of water chemistry and	
Hyperbolic heat-conduction equation — a		horizontal tube with variable viscosity		design onP	102
problemHT	543	and free-convection effectsHT	251	External corrosion reactions on surfaces,	
Longitudinal impact on a hollow cone	943	Free-convection heat transfer from an	100	Radioactive sulfur oxide studies ofP	
AM	445	inclined heated flat plate in airHT Free-convection heat transfer through an	192	216; (D) P 220; (AC) P	222
Three-dimensional boundary-layer flow		enclosed vertical liquid layer with a		Internal corrosion of high-pressure boilers,	
about an ablating slender coneB	632	vertical baffle, Exploratory studies of		A research study on — final report	72
CONSTANTINESCU, V. N.		НТ	163	Massive recirculation as a method of mini-	75
Heat transfer between the surfaces as a		Free convection through vertical plane		mizing corrosion in the combustion of	
secondary effect in gas lubrication. Note		layers - moderate and high Prandtl		residual fuelsP	
on the influence of theL	194	number fluidsHT	401	198; (D) P 205; (AC) P	206
Magnetic and electrical fields in gas lubri-		391; (D) HT	401	Stress-corrosion-cracking characterization	
cation, On the influence ofL		Free convective flow patterns in cylin- drical annuli		procedures and interpretations to fail-	
203; (AC) L	209	310; (D) (AC) HT	314	ure — safe use of titanium alloysB	614
Spiral-groove bearings, On the local com-		Gas solids suspension convective heat		Stress corrosion testing of 7079-T6 alumi-	
pressibility effect inL	79	transfer at a Reynolds number of		num alloy in seawater using smooth and precracked specimensB.	565
Constraints		130,000 (D)HT	203	Why, what, and how: Engine varnish L	
Roberts' cognates of space four-bar mech-		Laminar forced convection in regular		Сотта, G. А.	
anisms with two general constraints I		polygonal ducts with uniform periph-	156	Response of a fluidic air gaugeB	475
123; (D) I 127; (AC) I	128	eral heat flux	100	Counts, J.	
CONTACT		transitionHT	293	Wave propagation in a semi-infinite elastic	
Axisymmetric, nonidentical, flat face		Natural convection local heat transfer on		cylindrical membrane, The application	
flanges with metal-to-metal contact		constant - heat - flux inclined surfaces		of continued fractions toAM	420
beyond the bolt circle I 615;		НТ	511	Couplings	
(D) I 621; (AC) I	622	Thermal radiation effects on the laminar		Coordination of coupler-point and crank	
Basic equation of junction growth, On		free convection boundary layer of an	Q#	rotations in connection with Roberts'	
theAM	132	absorbing gasHT Turbulent natural convection boundary	37	configurationI	55
Concentrated contacts for minimum micro-	000	layers, An experimental study ofHT	517	4-bar linkages adjustable for several ap-	
slips, Geometric optimization ofL	360	Unsteady free-convection laminar flow	011	proximate straight-line motions of a	
Contact conformity effects on spinning torque and frictionL		past a porous wall with time-dependent		coupler point, Synthesis ofI	
308; (D) L 584; (AC) L	586	suction	327	172; (D) (AC) I	178
Contact problem of cylinders containing		Conveyers		Cox, J. E.	
a shallow longitudinal surface depres-		Oscillating conveyors, On the design		Correction for the ordinary Mangler dis-	
sion, On theAM	852	ofI	353	placement thickness for slender cones	544
Contact stress analysis for a round body		Screw conveyers and feeders, A study		Film boiling heat transfer from an oscil-	344
indenting a linearly viscoelastic, slab	626	of factors affecting the performance ofI		lating sphere (D)HT	271
by point matching	020	329; (D) I 333; (AC) I	334	COYNE, J. C.	
finite elastic bodiesAM	397	Web conveyance systems, Equivalent cir-		Asymptotic solution for a separating	
Continuum approach to the solution of the		cuit representation ofAM	316	film, An exactL	651
contact of rotating circular surfaces,		CONWAY, D. H.		CRABTREE, D. L.	
A discreteL	387	Engineering analysis of experimental		Velocity and temperature profiles in the	
Deep groove rolling contact parameter,		data (D)P	129	turbulent boundary layer above an	
AL	276	CONWAY, H. D.		evaporating liquid filmHT	186
Hertzian contact and adhesion of elas- tomers	732	Axial impact of short cylindrical bars		CRACKS	
Hertzian contact-stress deformation co-	102	AM	809	Corrosion-fatigue crack propagation stud-	
efficientsAM	296	Contact stress analysis for a round body		ies of some new high-strength struc-	
Influence of water on fatigue-failure loca-		indenting a linearly viscoelastic slab,	800	tural steelsB	570
tion and surface alteration during roll-		by point matchingAM	626	Crack growth under cyclic compression	
ing-contact lubricationL	****	COOLANTS AND COOLING		B 625; (D) (AC) B	631
301; (D) L 581; (AC) L	583	Ammonia as a reactive transpiration		Crack-propagation rate in 7075-T6 plates	
Rough surfaces and flats, The area of	224	coolant in porous body cooling, An	201	under cyclic tensile and transverse shear	764
contact between (AC)L Temperature transients at sliding inter-	224	experimental study ofHT Laminar, transition, and turbulent bound-	561	loadingsB Electron paramagnetic resonance measure-	104
face, OnL	397	ary-layer heat-transfer measurements		ments of strain induced ozone cracking	
Unbonded contact between plates and an		with wall cooling in turbulent airflow		in rubberB	587
elastic half space, On theAM	198	through a tubeHT	477	Environmentally assisted fatigue crack	
		COOPER, DUANE H.		growth rates in SAE 4340 steelB	598
CONTAINERS "Dynamics of Elastic Containers Partially		Hertzian contact-stress deformation co-		Fatigue crack	
Filled with Liquid" (BR)AM	655	efficientsAM	296	Part 1 — Discrete dislocation model	
Permanent compression of a rigidly con-	000	COOPER, M. G.		of a fatigue crack under shear lond- ing	799
tained granular bed following impact		Mass-transfer model in subcooled nucleate		Part 2 — Mean stress effect on the	120
with a rigid bodyAM	545	boiling (D)HT	412		731

Green's function for the stress-intensity		Cups		Real fluid flow over yawed circular cyl-	
factors of edge cracks and its applica-		Cup drawing from an anisotropic blank		inders, On (D) (AC)B	132
tion to thermal stresses, AB	618		771	Residual stresses in autofrettaged cyl-	102
Plane-strain crack toughness values of a			***	inders, Investigation of the relaxation	
structural steel, Factors influencing		CURVATURE		ofB	63
theB	506	Effects of curvature on laminar boundary		Spherical oscillating cylinder mechanism,	-
Stress-corrosion-cracking characterization		layers in sink-type flows	050	On the	143
procedures and interpretations to fail-		353; (D) B 358; (AC) B	359	Stresses around an elliptic hole in a cyl-	
ure — safe use of titanium alloysB	614	Transverse vibration of a viscoelastic column with initial curvature under		indrical shellAM	39
Surface microcracks in fatigue, The		periodic axial loadAM	814	Strictly sinusoidal flow around a sta-	
growth ofB	770			tionary cylinderB	707
White etching material outlining shell-		CUTTING TOOLS. See METAL CUTTING; TOO	LS	Temperature distributions in solid and	
type cracks in rail-heads, The cause of	E40	CUTTLER, J. M.		hollow cylinders due to a moving cir-	400
	549	Velocity and droplets concentration in		cumferential ring heat sourceHT	465
CRAIG, G. T.		two-phase flows, Measurements of		Thermal transients in plane walls, cyl- inders, and spheres, Effect of container	
Transport processes in magnetosolidme-		AM	334	capacitance on	67
chanics-adiabatic conditionsAM	107	Currena		Transient stresses at a clamped support	
CRANDELL, STEPHEN H.		CYLINDERS		of a circular cylindrical shellAM	367
Daniel Charles Drucker, technical editor		Approximate roots of Flügge's character-		Traveling loads in a cylindrical bore, Re-	
1956-1968AM	145	istic equation for the closed cylindrical	352	sponse of an infinite elastic medium	
Crane, L. S.		Axial impact of short cylindrical bars	200	toAM	51
Track quality index, Development and		AM	809	Unsteady flow and wake near an oscillat-	
use of aI		Axisymmetric buckling of axially com-		ing cylinder, TheB	
861; (AC) I	868	pressed short cylinders with free edges,		493; (D) B 502, 859; (AC) B 861;	040
Cranks		Asymptotic analysis forAM	329	(errata) B	862
Bicycloidal crank — a new four-link mech-		Buckling of composite and homogeneous		Unsteady laminar motion of a Newtonian fluid contained between concentric rotat-	
anismI	91	isotropic cylindrical shells under axial		ing cylinders (D) (AC)AM	374
Coordination of coupler-point positions		and radial loadingAM	791	Vibration of axially excited circular	914
and crank rotations in connection with		Buckling of cylindrical shells with axial	OFC	cylindrical shells containing fluid,	
Roberts' configurationI	55	surface tractionsAM	350		1119
Inverted slider crank, coupled in tandem		Calcium-sulfate scale on a heated cylinder in crossflow, The formation of, and its		Wake observations for oscillating cyl-	-
to another four bar, to generate a con-	97	removal by acoustically induced cavita-		indersB	850
stant velocity ratioI	37	tionHT	111	Wave propagation in a semi-infinite	
CREEP		Circular cylindrical shell supported along		elastic cylindrical membrane, The ap-	
Behavior of nonlinear viscoelastic material		a generatorAM	888	•	420
under simultaneous stress relaxation in tension and creep in torsionAM	00	Compression of a thin plastic mass be-		delica manufactura and a property of the state of	
Double-notch creep rupture of Cr-0.5	22	tween two elastic cylindersL			
Mo steelsB	49	342; (D) L 349; (AC) L	350		
Effects of some gaseous environments		Computation of hollow cylinder explo-		the state of the second of the second of the	
on the creep of a stainless steel. The		sions, A method for theAM	217		
В	575	Contact problem of cylinders containing a			
Reaction-rate treatment of the extrapola-		shallow longitudinal surface depression, On the	852	DADEPPO, D. A.	
tion methods in creep testing, AB	59	Distributed loads on long cylinders, Solu-	200	Finite deflections and snap-through of	
Reaction-rate treatment of the life frac-		tions forI	623	high circular arches (D)AM	652
tion hypothesis in creep testing, AB	56	Drag and heat transfer from a circular		Sidesway buckling of deep circular arches	-
Very-short-time, very-high-temperature creep rupture of type 347 stainless steel		cylinder normal to an airstream, The		under a concentrated loadAM	325
and correlation of dataB	32	influence of vortex generators on the		DALGAARD, S. B.	
CRESPO, J. R.	-	HT	91	Hydrogen damage in carbon steel, Some	
Engineering analysis of experimental data		Dynamic response of an infinite cylindrical	940	factors controllingP	72
(D)P	190	shell in an acoustic medium	042	DALTON, CHARLES	
	129	ical panels, The	271	Real fluid flow over yawed circular cyl-	
CRISTESCU, N. (author)	600	Effect of general imperfections on the	211	inders, On (D)B	132
"Dynamic Plasticity" (BR)AM	382	buckling of cylindrical shells, TheAM	28	Strictly sinusoidal flow around a sta-	707
CROOKER, T. W.		Effect of vibration on heat transfer for		tionary cylinder	101
Corrosion-fatigue crack propagation stud-		flow normal to a cylinderHT	140	indersB	850
ies of some new high-strength structural	-	Elastic behavior of two normally intersect-		DALZELL, W. H.	200
steelsB	570	ing cylindrical shellsI	563	Optical constants of soot and their ap-	
CROSLEY, P. B.		Elastic filament reinforcement of a visco-		plication to heat-flux calculationsHT	100
Dynamic fracture toughness of A533		elastic cylinder, OnAM	573	DAMAGE	200
steelB	525	Elastic postbuckling behavior of stiffened and barreled cylindrical shellsAM	784	Sliding damage on the (001) surface of	
CROSSLEY, F. R. E.		Excitation of an elastic cylindrical shell	104	copper single crystal, Anistropy ofL	
Four-bit binary adding mechanism, Struc-		by a transient acoustic wave	459	DAMPING	-
tural synthesis of aI		Forced transverse vibration of a solid		Circulatory system with bilinear hysteresis	
240; (AC) I Gross motion attributes of certain spatial	249	viscoelastic cylinder bonded to a thin		damping, On stability of aAM 76;	
	83	easingAM	827	(D) AM 905; (AC) AM	906
Cavocavics	30	General instability of inclined-stiffened	400	Expected equivalent damping under ran-	
CRYOGENICS Hydrostatic bearings for exponents rocket		cylinders under bendingAM	403	dom excitation 967; (D) (AC) I	
Hydrostatic bearings for cryogenic rocket engine turbopumpsL		Instability in an elastic-plastic cylindrical shell under axial compression		Influence of dissipative heating on the loss factor of a viscoelastically damped	
Influence of surface characteristics on	001	47; (D) (AC) AM	909	beam, TheI	
the boiling of cryogenic fluids, TheI	1217	Laminar film condensation of a flowing	000	Parallel damped dynamic vibration ab-	
Small cryogenic regenerator performance	1	vapor on a horizontal cylinder at normal		sorbers, Analysis of	282
	273	gravityHT	495	Self-sustained two-degrees-of-freedom sys-	
CRYSTAL		Large deflections of an inflated cylindri-		tem with nonlinear damping, Response	
Sliding damage on the (001) surface of		cal tentAM	845	and stability of aI	
copper single crystal, Anistropy ofL		Limit analysis of short cylindrical shells,	900	Vibratory bending of damped laminated	
CUFFEL, R. F.		An experimental verification ofAM Moisture stresses in a long hollow wood	362	plates	1081
Laminar, transition, and turbulent boun-		pole of constant outer and inner radius		DAMPING DEVICES	
dary-layer heat-transfer measurements		in a state of plane strainAM	641	Gyroscopic systems as vibration absorbers	
with wall cooling in turbulent airflow	DOTE.	Multiple scattering of elastic waves by	1	Resonant beam tuned damping device,	1100
through a tubeHT	477	parallel cylindersAM		AP 143; (D) (AC) P	
CUMMINS, D.		Near-wake of a circular cylinder in cross-		DANZINGER, W. J.	-
Unsteady pressure differential in a capil-		flow, The (D) (AC)B		Gas solids suspension convective heat	1.111
lary-tube gas viscosimeterAM	171	Nonlinear oscillation of a cylinder con-		transfer at a Reynolds number of	
CUNNINGHAM, R. G.		Nonlinear response of a cylindrical shell		130,000 (D)HT	
Water jet pumps, optimum design of		to an impulsive pressureAM		DARCY'S LAW	
(D)P	137	Peristaltic waves in circular cylindrical		Non-Darcy flow through fibrous porous	
CUNNINGHAM, ROBERT E.		tubesAM		mediaAM	711
Herringbone-grooved gas-lubricated jour-		Plastic limit pressures of reinforced open-		DAROCHA, P. M. A.	5.7
nal bearing, Experimental stability stud-		ings in cylindrical shells, Experimental		Stress-concentration factors in shouldered	
ies of theL	**	investigations of the	Y #10	shafts subjected to combinations of	
52; (AC) L	58	710; (D) I 715; (AC)	r 110	flexure and torsion (AC)	-01

DATTA, S. K.		DEMOREST, K. E.		bration isolation, Comparative study of	
Elastic waves in a hollow sphere, Three- dimensional and shell-theory analysis of		Molybdenum disulfide lubricants in radia- tion and vacuum environments, A test of (D)	396	Optimizing linear vibration isolator sys- tems subject to random input, A new	128
Part 1: Analytical foundationAM	431	DENMAN, H. H.	-	criterion for 1 10	005
Normal vibrations of a rectangular plate	440	Approximate equivalent linearization tech- nique for nonlinear oscillations, AnAM	358	Parallel damped dynamic vibration ab- sorbers, Analysis of	282
with attached massesAM DAVIS. S. H.	130	DENNAR, E. A.		moving load, On theI	925
Thermal instability in fluid layers in the		Differential approximation for spherically		Shoe-type brake-clutch systems, Generaliz-	
presence of horizontal and vertical tem-		symmetric radiative transfer, An evalua- tion of theHT	73	ing the analysis of	701
The state of the s	906		10	Transfer functions for helical springs	101
DAVISON, E. J.		DENNY, V. E Laminar film condensation of a flowing		I 1	011
Second order linear periodic system, The stability of a	207	vapor on a horizontal cylinder at normal		Vibration of axially excited circular cyl-	
DAWSON, P. H.	201	gravityHT	495	indrical shells containing fluid, Experi- mental studies of	119
Pitting of steel under varying speeds and		DEPEW, C. A.		Vibration of containing structures by	
	291	Forced laminar flow convection in a hori-			939
DAWSON, VICTOR C. D.		zontal tube with variable viscosity and free-convection effectsHT	251	Vibratory bending of damped laminated plates	081
Residual stresses in autofrettaged cylin-		Gas solids suspension convective heat		Whirl in a finite journal bearing with	001
ders, Investigation of the relaxation of	63	transfer at a Reynolds number of	203	a continuous lubricating film, An ana-	
DEAN, R. C., JR.	00	130,000 (D)HT	200	lytic solution forI 1	189
Straight channel diffuser performance at		Depressions Contact problem of cylinders containing		DESILVA, B. M. E. Minimum weight design of disks using a	
high inlet Mach numbersB 397;		a shallow longitudinal surface depres-		frequency constraint	091
	418	sion, On theAM	852	DEUTSCH, G. P.	
DECAY		Derner, W. J.		Pressures on silo wallsI	450
Decay of symmetrical laminar distorted profiles between flat parallel plates B	558	Cylindrical roller bearings having crowned		450; (AC) I Deutsch, S. J.	400
DECKEN, C. B. v. D.	-	rolling members, The effect of misalign-	690	Profile measurement of coated abrasive	
Movement of fuel elements in the core of		ment on the fatigue life of (D)L	580	surfaces (D)	786
a pebble bed reactor, Investigations on		DERUNTZ, J. A., JR.		DE VAHL DAVIS, G.	
theI	390	End effect bending stresses in the cables	750	Free convective flow patterns in cylindri-	
DEFLECTION Public of a selection with a selection			100	cal annuli (D)HT DEVRIES, K. L.	314
Buckling of a column with random initial deflections, The	233	Design Engineering Actual popping pressure of a relief valve		Electron paramagnetic resonance meas-	
Finite deflections and snap-through of high	200	with a real helical spring under dynamic		urements of strain induced ozone crack-	
circular arches (D)AM 652; (AC) AM	653	loadI	1142		587
Finite deflections of an elastic circular plate with a central holeAM	285	Syntactic foams, The static strength of	551	DEVRIES, M. F. Profile measurement of coated abrasive	
Finite symmetrical deflections of thin	200	Application of controlled mechanical im-	001	surfaces (D)I	786
shells of revolution, onAM	267	pedance for reducing machine tool vi-		DIBOLL, W. B.	
Large deflections of an inflated cylindri- cal tentAM	845	brations	1057	Lateral stability of road and rail trailers	1000
Stresses in largely deflected cantilever	040	Balancing criteria and their relationship to current American practice	1035	Dickerson, J. R.	1069
beams subjected to gravityAM	323	Bending-bending mode of a rotating		Stability of continuous dynamic systems	
DEFORMATION		tapered-twisted turbomachine blade in-		with parametric excitationAM	212
Barreling as an example of free deforma-		cluding rotatory inertia and shear defor- mation	1017	DICKERSON, P.	
tion in plastic workings, A study of	754	Bent submarine cables, Axial stresses in	1011	Very small diameter laminar flow orifices, An investigation ofB	546
Bending-bending mode of a rotating	104	armor wires of 687;	200	Dickinson, S. M.	040
tapered-twisted turbomachine blade in-		(D) I 691; (AC) I Circular ring of arbitrary section, Three-	693	Flexural vibration of rectangular ortho-	
cluding rotatory inertia and shear de- formationI	1017	dimensional deformation and buckling		tropic plates, TheAM	101
Bonded elastic mounts under combined	1011	of aI	266	DIES	
loading of shear and normal forces		Complete response of distributed systems controlled by a finite number of linear		Friction and adhesion in deformation proc- essing, Effect of die surface composi-	
Circular cylindrical shell supported	508	feedback loops	1063	tion onL	
along a generatorAM	888	Critical speeds of a continuous rotor, On		351; (D) L 357; (AC) L	359
Circular ring of arbitrary section, Three-		the	1180	Rod-drawing, Optimum die angles and maximum attainable reductions inI	
dimensional deformation and buckling of a	266	bucket frequencies by the use of pertur-		664; (D) I 671; (AC) I	672
Elastic-plastic deformation at finite strains	200	bations, An application of	1029	DIESEL AND GAS ENGINE POWER	
AM	1	Dynamic stability of rotor/stator radial		Burning rate development in a closed	
Friction and adhesion in deformation proc-		rubs in rotating machinery, The		vessel of arbitrary shape and variable	
essing, Effect of die surface composi- tion onL 351; (D) L 357; (AC) L	359		1133	volume, for variable but uniform pres- sureP	69
Hertzian contact-stress deformation coef-		Effects of sound on jets and flueric de- vices, A discussion of the		DIETRICH, M. W.	
Influences of large amplitudes, transverse	296	Electrohydraulic vibration isolation sys-		Contact conformity effects on spinning	
shear deformation, and rotatory inertia		tems, Theoretical and experimental in-		torque and frictionL	500
on lateral vibrations of transversely		vestigation ofI	981	308; (AC) L	586
isotropic platesAM	254	Flow-induced vibrations of metal bellows		DIETZEL, C. E.	
Moiré method for measuring large plane deformations, The: general theory and		Gyroscopic systems as vibration absorbers		Shaft geometry — a major factor in oil seal performance (D)L	210
application to homogeneous deformation			1156	Shaft surface finish is an important part	197
AM		Influence of dissipative heating on the loss factor of a viscoelastically damped		of the sealing system (D)L	212
Overall deformation of a homogeneous isotropic elastic porous medium, On		beam, The		DIFFRACTION	
AM	333	Influence of internal friction on the sta-		Diffraction of horizontal shear waves by a half plane	873
Some steady-state plastic deformation		bility of high speed rotors with aniso- tropic supports, The		Diffusers	
processes, A new upper-bound method for analysis ofI 731; (D) I 741; (AC) I		Lateral stability of road and rail trailers		Diffuser for high-performance centri-	
"The Physics of Large Deformation of		***************************************	1069	fugal compressors, A novel low-cost	40
Crystalline Solids" (BR)AM	384	Limit cycles and stability of a nonlinear		Diffuser performance, Some effects of in-	46
Dega, R. L.		two-degree-of-freedom autonomous vi- bratory system		let blockage and aspect ratio onB	550
Positive action seals in Europe (D)L		Low-speed chatter effects, An explanation	1	Effects of nonuniform inlet velocity pro	
Process control and testing of elastomers and elastomeric compositions (D)L		of		files on flow regimes and performance	
Shaft surface finish is an important part		Motion of a flat-plate pendulum in a vis- cous fluid, The		in two-dimensional diffusersB 462; (D) (AC) B	474
of sealing system (D)L	213	Offset unsymmetric gyroscope with ob-		Straight channel diffuser performance at	
DE MELLO, F. P.		lique rotor using (3 x 3) matrices with	1	high inlet Mach numbers	
Nonlinear optimal control by use of extra linear states to represent nonlinearities		dual-number elements		397; (D) B 412; (AC) B Venturi meter with separable diffuser	
(D)		Optimization techniques for shock and vi		В	

Interference And Ambelow Assessment		A study of (AC)	107	DWYER, U. E.	
Interferometric technique for measuring		A study of (AC)HT	197	Heat transfer to mercury flowing in line	
binary diffusion coefficients, AnHT		Douglas, W. J. M.		through an unbaffled rod bundle: experi-	
259; (D) HT 265; (AC) HT	266	Near-wake of a circular cylinder in cross-		mental study of the effect of rod dis-	
Thermal diffusivities of thermal energy		flow, The (D)B	328	placement on rod-average heat transfer	
storage materials, The determination		Downes, M. S.		coefficientsHT	568
of:		Rolling friction:		Dye, R. C. F.	
Part 2 - Molten salts beyond the melt-		II - Cast-iron car wheelsL	264	Vibration amplitudes of compressor blades	
ing pointP	189	Dowson, D.		resulting from scatter in blade natural	
DIJKSMAN, E. A.		Hydrodynamic journal bearings, Optimum		frequenciesP	
Calculation and construction of the Bur-		design of (D)L	522		188
mester points for five positions of a				DYNAMICS	
moving planeI	66	DRAG		Dynamic loads caused by vehicle-track	
Coordination of coupler-point positions and		Aerodynamic drag on vehicles in tunnels		interaction, A computer study ofI	808
crank rotations in connection with		В	694	Dynamic measurement of absolute track	000
Roberts' configurationI	55	Drag and heat transfer from a circular			
DILLON, O. W., JR.		cylinder normal to an airstream, The		properties	859
Approximate solutions in linear coupled		influence of vortex generators on the		Dynamic stiffness of controlled hydro-	600
thermoelasticity (D)AM	373	IIT	91		EO7
DIMENTBERG, M.	010	"Viscous Drag Reduction" (literature		static bearings, TheL	597
	1	available)AM	911	Dynamically loaded journal bearings:	
Pressures on silo walls (D)I	457	Drescher, A.		maximum film pressureL	***
DIMITROFF, E.		Flow of bulk solids, Limit plasticity ap-			541
Why, what, and how: engine varnishL	406	proach to some cases ofI	357	Dynamics of beam-type periodic struc-	1100
DIMOFTE, F.			001	turesI	1199
Magnetic and electrical fields in gas lubri-		DRILLING		Lateral dynamics of railway vehicles,	
cation, On the influence ofL		Impact system connected with rock drill-		General aspects of theI	OPP
203; (AC) L	209	ing, Dynamic stability of anAM	743	869; (D) I 875; (AC) I	877
DINNO, KHALID S.		Transient drilling temperature responses,		Turborotor instability: effect of initial	
Shakedown as a guide to the design of		Building a mathematical model to pre-		transients on plane motionL	
pressure vessels (D)I	900	dietI	641	625; (D) L 630; (AC) L	632
DiPrima, R. C.	000	Dring, R. P.		Dzakowic, G. S.	
		Hot-wire anemometer calibration for		Heat pipes operating at low vapor pres-	
Slider bearings at high bearing numbers,		measurements at very low velocityHT	241	sures, Theoretical investigation of (D)I	288
Higher order approximations in the			247		
asymptotic solution of the Reynolds	11	Droplets			
equation forL	45	Velocity and droplets concentration in	004		
DISCHARGERS AND DISCHARGING		two-phase flows, Measurements of AM	334	The second secon	
Entrainment patterns of screw hopper		DRUCKER, DANIEL CHARLES			
dischargesI	295	Completes 12 years as technical editor			
Granular solid discharged from a bin, Air		of Journal of Applied Mechanics; be-			
pressure in the bulk ofI	382	comes dean of engineering at Univer-		P	
Noncohesive granular materials through		sity of IllinoisAM	145	EARTHQUAKES	
discharge chutes, An investigation of			2.00	Expected equivalent damping under ran-	
the gravity flow ofI	373	DRUTOWSKI, RICHARD C.		dom excitationI	
Stresses in wedges of cohesionless mate-	010	Hertzian contact and adhesion of elas-		967; (D) (AC) I	974
rials formed by free discharge at the		tomersL	732	ECCENTRICITY	
	345	D'Souza, A. F.		Eccentric face seal with a tangentially	
Unsteady flow in a tube with prescribed	040	Characteristics with application to fluid		varying film thickness, TheL	748
	202	lines with frequency dependent wall		Misaligned, eccentric face seal, TheL	
dischargeAM	635	shear and heat transfer, A quasi method		Еск, В. J.	
Disks		of (D)B		Thermal stresses in railcar wheels, A	
Flat disk squeeze-film bearing, Experi-		Optimal control of linear distributed pa-		three-dimensional finite difference solu-	
ment and analysis of a - including ef-		rameter systems with constrained inputs		tion for theI	901
fects of supported mass motionL	138	В			991
Flow between two parallel circular disks,		Dubey, R. N.		ECKERT'S TECHNIQUE	
one of which is subject to a normal		Instability in an elastic-plastic cylindrical		Radiation view factors for a toroid: com-	
sinusoidal oscillation, TheL	126			parison of Eckert's technique and direct	
Interference stresses in a half plane con-		shell under axial compressionAM	000	computationHT	459
taining an elastic disk of the same		47; (AC) AM	909	EDDY VISCOSITY	
materialAM	128	Ducts		Turbulent boundary layer with emphasis	
Laminar inward flow of an incompressible		Calculating heat transfer and pressure		on interfacial conditions, A two-region	
fluid between rotating disks, with full		drop in ducts with laminar flow, An		model of theAM	664
peripheral admission (D)AM		approximate method forHT		Edges	
375; (AC) AM	376	Flow and heat transfer in ducts of ar-		Axisymmetric buckling of axially com-	
Minimum weight design of disks using a	010	bitrary shape with arbitrary thermal		pressed short cylinders with free edges,	
frequency constraintI	1001	boundary conditions (D)HT			329
	1091	Flow in the hydrodynamic entrance region		Asymptotic analysis forAM	320
Thermal shock on a finite disk due to an instantaneous point heat sourceAM	113	of ducts of arbitrary cross section HT		Enson, L. (co-author)	
		Fully developed turbulent flow in the		"The Wind and Beyond" (BR)AM	141
Unsteady heat transfer from a rotating		circular tube and parallel plate chan-		Edwards, D. K.	
diskHT	162	nelAM	124	Cellular convection by lateral walls, Sup-	
DISLOCATION		Incompressible turbulent swirling flow		pression ofHT	145
Fatigue crack		in stationary ducts, Analytical inves-		Radiative transfer characteristics of	
Part 1 - Discrete dislocation model of		tigations ofAM	151	materialsHT	1
a fatigue crack under shear loading		Laminar forced convection in regular			
AM	723	polygonal ducts with uniform peripheral		EGLE, D. M.	
Part 2 - Mean stress effect on the		heat fluxHT		Wave propagation in a finite-length bar	000
shear fatigue crack modelAM	731	MHD flow in a rectangular duct of ar-		with a variable cross section (D)AM	908
		bitrary conductivity for arbitrary Hart-		EHRICH, F. F.	
Dispersion		man number, OnAM		Acoustic resonances and multiple pure	
Dispersive pulse propagation in laminated		Two-component stratified flow in a		tone noise in turbomachinery inletsP	258
composites, Experiments on, and com-	40=	horizontal duct, Experiments onHT		Dynamic stability of rotor/stator radial	
parison with theoryAM	485		01	rubs in rotating machinery, TheI	1025
Dispersive pulse propagation parallel to		Dudzinski, T. J.		The state of the s	
the interfaces of a laminated com-		Venturi meter with separable diffuser		EIGENFUNCTIONS	
positeAM	479	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	116	Eigenfunction solution for beam on elastic	
DISSIPATION		Dundurs, J.		foundationAM	799
Equivalent nonlinear system approach to		Edge-bonded dissimilar orthogonal elas-		El-Assar, R. J.	
dissipative dynamical systems, Applica-		tic wedges under normal and shear		Laminar wake behind a finite flat plate,	
	410	loading (D)AM		A numerical solution for the (D)AM	907
tion of anAM	412	DUNN, H. SEARL	000	and the second s	307
DiTaranto, R. A.		Web conveyance systems, Equivalent		ELASTICITY	
Vibratory bending of damped laminated				Astatic equilibrium in Saint-Venant's prin-	
platesI		circuit representation ofAM	316	ciple for linear elasticityAM	392
		Durelli, A. J.		Bonded elastic mounts under combined	
Doeksen, G.		Stresses in largely deflected cantilever		loading of shear and normal forcesI	508
Flow of dry bulk solids on bin walls	1000	beams subjected to gravityAM	323	Compression of a thin plastic mass be-	
(D)I	492	Dussourd, J. L.		tween two elastic cylindersL	
DOUGALL, R. S.		Laminar inward flow of an incompressible		342; (D) L 349; (AC) L	350
Temperature profiles measured in the		fluid between rotating disks, with full		Contact stress between two-dimensional	
thermal sublayer of water, Freen-113,		peripheral admission (D)AM		finite elastic bodiesAM	397
		The state of the s	0.0	***************************************	001

SLASTICITY (Continued)		tion of the	-	ENGEL, P. A.	
Eigenfunction solution for beam on elas-		755; (D) I 764; (AC) I	765	Contact stress analysis for a round body	
tic foundationAM	799	ELECTRODYNAMICS		indenting a linearly viscoelastic slab,	
Elastic behavior of two normally inter-	***	Electrodynamic oscillating compressors		by point matchingAM	626
secting cylindrical shells	563	Part 1 — Design based on linearized	Toward I	ENGH, T. A.	
Elastic deformation of a circular rod of		loadsB	656	Rate of flow of solids, Effect of injected	
finite length for an axially symmetric		Part 2 — Evaluation of specific de-		air on theI	335
end face loading, TheAM	241	signs for gas loadsB	664		
Elastic orthotropic ellipsoid in a centri-		ELECTROHYDRAULICS		Engineering Analysis	
fugal force field, AnAM	313	Electrohydraulic vibration isolation sys-		Engineering analysis of experimental data	404
Elastic-plastic deformation at finite		tems, Theoretical and experimental in-		P 21; (D) P 127; (AC) P	131
strainsAM	1	vestigation ofI	981	Engines	
Elastic-plastic plane-strain solutions with		ELECTROMAGNETICS		Air pollution characteristics of gas tur-	
separable stress fieldsAM	528	Magnetic and electrical fields in gas		bine enginesP	290
Elastic-plastic stress distribution in a		lubrication, On the influence ofL		Hydrostatic bearings for cryogenic rocket	
compressed ring (D)B		203; (D) L 208; (AC) L	209	engine turbopumpsL	557
562; (AC) B	563		200	Thermal performance of a Stirling-engine	
Elastic-plastic, work-hardening arches	1001	Ellipsoids		regenerator, An approximate solution	
AM	247	Elastic orthotropic ellipsoid in a centrif-		for theP	109
Elastic postbuckling behavior of stiffened		ugal force field, AnAM	313	Why, what, and how: engine varnishL	
and barreled cylindrical shellsAM	784	Ellipsoidal heads, An evaluation of ASME		the second secon	-
Elastic waves in a hollow sphere, Three-			636	ENGLAND, W. G.	
dimensional and shell-theory analysis		ELLYIN, FERNAND		Thermal radiation effects on the laminar	
of		Assessment of the plastic strength of		free convection boundary layer of an	
Part 1: Analytical foundationAM	431	pressure vessel nozzles (D)I	522	absorbing gasHT	37
Part 2: Numerical resultsAM	440			Entrainment	
Exact transient response of an elastic		ELROD, B. D.		Prediction of turbulent boundary layer	
half space loaded over a rectangular		Solar array performance as a function of		growth in adverse pressure gradients,	
region of its surfaceAM	516	orbital parameters and spacecraft atti-		A modified entrainment theory for the	
Finite deflections of an elastic circular		tudeI	13	A mounted entransient theory for the	649
plate with a central holeAM	285	ELROD, HAROLD G., JR.			
Free vibrations of reinforced elastic		Asymptotic solution for a separating film,		Environment	
shellsAM	835	An exactL	651	Environmentally assisted fatigue crack	
High-frequency response of an elastic		Finite-width high-speed self-acting gas-		growth rates in SAE 4340 steelB	598
spherical shellAM	859	lubricated slider (and partial-arc) bear-		EQUILIBRIUM	
Higher-order theories for structural analy-	000	ings, Theory forL	17	Astatic equilibrium in Saint-Venant's	
sis using Legendre polynomial expan-		Pulsating flows in infinite and finite coni-		principle for linear elasticityAM	392
sionsAM	757	cal nozzles, Analysis ofAM	159		
Initial slope of elastic-plastic boundaries	101	Slider bearings at high bearing numbers,	100	ERASLAN, A. H.	
in combined longitudinal and torsional		Higher order approximations in the		Temperature development in the entrance	
wave propagation, On theAM	203	asymptotic solution of the Reynolds		region of an MHD channel, The solu-	
Instability in an elastic-plastic cylindrical	203		45	tion of, by the B. G. Galerkin method	
		equation forL	40	HT	212
shell under axial compressionAM	000	EL-WAKIL, M. M.		ERDLAC, R. J.	
47; (D) (AC) AM	909	Interface shear stress in annular flow	1965	Built-in ends of beams and plates, Local	
Interference stresses in a half plane con-		condensation, On theHT	450	flexibility coefficients for theI	
taining an elastic disk of the same	400	Interferometric technique for measuring		607; (AC) I	614
materialAM	128	binary diffusion coefficients, AnHT			02.0
Lubrication problems with temperature and		259; (AC) HT	266	Erdogan, F.	
elasticity effects, Method for solution		ELWELL, R. C.		Stresses in fiber-reinforced composites	
of:				with imperfect bondingAM	865
Application to sector, tilting-pad bear-		Considerations of flow in a bearing groove	011	ERIAN, FADEL F.	
ingsL	634	(D)L	211	Influence of pressure gradient in turbu-	
One-dimensional impact waves in in-		Journal bearings, Design of pivoted-pad	100	lent flows with asymmetric mean veloc-	
homogeneous elastic mediaAM	803	L 87; (AC) L	103		901
Overall deformation of a homogeneous		EMERY, A. F.		ityAM	901
isotropic elastic porous mediumAM	333	Free-convection heat transfer through		Erikson, T. A.	
Pulsatile flow behavior in elastic systems		an enclosed vertical liquid layer with		Migrational properties for the steady	and the
containing wave reflection sitesB	95	a vertical baffle, Exploratory studies		forced vaporization of waterHT	221
Pulse propagation in a poroelastic solid		ofHT	163	ESCHENBACH, P. W.	
AM	878	Free convection through vertical plane		Optimization of four-bar linkages satisfy-	
Response of an elastic half space to a		layers - moderate and high Prandtl		ing four generalized coplanar positions	
decelerating surface point loadAM	819	number fluidsHT	391	rous generalized copianas positions	
Temperature transition from linear elastic		Green's function for the stress-intensity			10
to gross strain fracture conditions, Dy-		factors of edge cracks and its applica-		ESHEL, A.	
namic tear test definition of theB	108	tion to thermal stresses, AB	618	Infinitely wide foil bearing, The propaga-	
Thermal stresses during solidification		Monte Carlo method, A modification to		tion of disturbances in theL	120
on basis of elastic modelAM	763	the — the Exodus method (AC)HT	291	ESHELBY, J. D.	
Transient excitation of an elastic half		Recompression step heat transfer co-		Axisymmetric stress field around sphe-	
space by a point load traveling on the		efficients for supersonic open cavity		roidal inclusions and cavities in a trans-	
surface	505	flowHT	168	versely isotropic material (D)AM	
Traveling loads in a cylindrical bore, Re-		Thermal radiation effects on the laminar	100		902
sponse of an infinite elastic medium to		free convection boundary layer of an		ESHLEMAN, R. L.	
AM	51	absorbing gasHT	37	Critical speeds of a continuous rotor, Or	
Unbonded contact between plates and an			01	the	1180
elastic half space, On theAM	198	EMISSION		ETCHING	
Vibrations of an elastic layer, An asymp-	100	Radiative energy transfer in an absorb-		White etching material outlining shell-	
totic method to analyzeAM	65	ing method and emitting media, An ap-		type cracks in rail-heads, The cause	
Wave propagation in a semi-infinite elas-	00	proximate method for multidimensional		of	
tic cylindrical membrane, The applica-		problems ofHT	502		343
tion of continued fractions toAM	420	Energetics		ETTLES, C. M. M.	
	340	Thermal diffusivities of thermal energy		Considerations of flow in a bearing groove	
ELASTOHYDRODYNAMICS		storage materials, The determination		(AC)I	212
Individual asperity-asperity collisions, The		of:		EUBANKS, R. A.	
application of elastohydrodynamic lubri-		Part 2 — Molten salts beyond the melt-		Critical speeds of a continuous rotor, Or	1
cation theory toL		ing pointP	189	the	
464; (D) (AC) L	475	Thermal performance of a Stirling-engine	100		-100
ELASTOMERS		regenerator, An approximate solution		EVAPORATION	
Hertzian contact and adhesion of elas-		for theP	109	Film condensation, film evaporation, and	
		Thermal transpiration for the develop-	100	single-phase heat transfer for liquid	
Process control and testing of elastomers				Prandtl numbers from 10° to 10', An	
		ment of a new type of gas pump, A	000	analysis ofH7	413
and elastomeric compositions (D)	011	study ofP	207	EXCITATION	
(AC)L	211	Energy Conversion		Excitation of an elastic cylindrical shel	1
ELCO, R. A.		"Magnetohydrodynamics Energy Conver-		by a transient acoustic wave	459
Magnetic and electrical fields in gas		sion" (BR)AM	655	Expected equivalent damping under ran	
lubrication, On the influence ofL		ENERGY TRANSFER		1	
203; (D) L		Radiative energy transfer in an absorb-		967; (D) (AC)	
ELECTROCHEMISTRY		ing and emitting media, An approxi-		Mean-square response of simple mechan-	
One-dimensional equilibrium cutting gap		mate method for multidimensional prob-		ical systems to nonstationary random	
in electrochemical machining, Predic-		lems ofHT	502	excitationAM	

Response of linear systems to magnitude		Cylindrical roller bearings having crowned		film boiling from vertical plate, Analy-	
	991	rolling members, The effect of misalign- ment on the fatigue life ofL		tical derivation for	452
Stability of continuous dynamic systems with parametric excitation	212	294; (D) L 576; (AC) L	580	performance, Effect ofHT	21
Transient excitation of an elastic half		Effect of axial compression on low-cycle	-	Velocity and temperature profiles in the	
space by a point load traveling on the surface	505	fatigue of metals in tensionB Environmentally assisted fatigue crack	780	turbulent boundary layer above an evap- orating liquid filmHT	186
Vibration of axially excited circular cy-	000	growth rates in SAE 4340 steelB	598	FILTERS AND FILTERING	200
lindrical shells containing fluid, Experi-		Fatigue crack		Invariant imbedding and sequential inter-	
mental studies ofI 1 EXPANSIONS	1119	Part 1 — Discrete dislocation model of a fatigue crack under shear load-		polating filters for nonlinear process B 195; (D) B 199; (AC) B	200
Piecewise continuous expansions in the		ing	723	Optimum filtering for a class of linear dis-	200
identification of nonlinear systems,		Part 2 - Mean stress effect on the	701	tributed-parameter systems, OnB	173
	179	shear fatigue crack modelAM Fatigue damage accumulation, A general	731	FINDLAY, J. A.	
EXPLOSIONS		theory ofB	1	Inward pumping in mechanical face seals L 417; (AC) L	426
Computation of hollow cylinder explo- sions, A method for theAM	217	Influence of water on fatigue-failure loca-		Journal bearings, Design of pivoted-pad	-
EXTENSION		tion and surface alteration during roll- ing-contact lubricationL		L 87; (AC) L	103
Fracture criteria for combined extension		301; (D) L 581; (AC) L	583	Leakage in mechanical face seals, Meas- urements ofL	687
and bending, An experimental investiga- tion of	941	Low-cycle fatigue behavior under biaxial	23	FINDLEY, W. N.	1001
EXTRUDERS AND EXTRUSION	841	strain distributionB Surface microcracks in fatigue, The	20	Behavior of nonlinear viscoelastic material	
Aluminum wire by cold hydrostatic extru-		growth ofB	770	under simultaneous stress relaxation in tension and creep in torsionAM	00
sionB	822	FAUSKE, H. K.		FINKIN. E. F.	-
Axisymmetric extrusion with experiment,		Pressure pulse model for two-phase criti		Continuum approach to the solution of the	
Comparison of two complete solutions in an	543	cal flow and sonic velocity, A (D)HT	381	contact of rotating circular surfaces,	
Eutectic alloy of Pb and Sn, Some extru-		FEEDBACK Complete response of distributed systems		A discreteL Film thickness and normal load in the fric-	387
sion studies of the	680	controlled by a finite number of linear		tion of thin films, A theory for the ef-	
Flow of a melted plastic through a screw extruded, Prediction ofB		feedback loopsI	1063	fects ofL 551; (AC) L	556
479; (D) B 488; (AC) B	490	FEEDERS		Fins	
EZZAT, H.		Screw conveyors and feeders, A study of factors affecting the performance of		Circular fins of triangular profile, Effi-	101
Hydrodynamic journal bearings, Optimum		329; (D) I 333; (AC) I	334	ciency of	181
design ofL 516; (AC) L	522	FEHER, E. G.		root temperatureHT	129
010, (110, 1		Supercritical steam cycle, The totally (D)		Variation of local film coefficients of fin	
			119	performance, Effect ofHT	21
2012 Company (1969) 166 (196		FEIT, DAVID High-frequency response of an elastic		Axisymmetric, nonidentical, flat face	
The state of the s		spherical shellAM	859	flanges with metal-to-metal contact be-	
FAHY, F. J.		FELDT. W. T.		yond the bolt circleI 615; (D) I 621;	200
Vibration of containing structures by		Instability of a mechanical system induced		(AC) I Bolt spacing for flange sealing, Analysis	622
sound in the contained fluidI	939	by an impinging fluid jetAM	693	ofI	290
FAILURE		FELSEN, I. M.		FLAPS	
Failures of reinforced concrete grain		Influence of water on fatigue-failure loca- tion and surface alteration during roll-		Stream deflection produced by a cascade of	
silos	476	ing-contact lubricationL		jet flap airfoilsB	553
Influence of water on fatigue-failure loca-		301; (AC) L	583	FLATNESS Fluid-jet amplifier with flat saturation	
tion and surface alteration during roll-		FENNER, R. T.		characteristics, AB	734
ing-contact lubricationL 301; (D) L 581; (AC) L	583	Flow of a melted plastic through a screw extruder, Prediction of (D)B	490	Product flatness in strip rolling mills,	
New processes of cup drawing, The me-		Fibers		Principles of self control of	700
chanics of some	304	Non-Darcy flow through fibrous porous		FLEMING, DAVID P.	100
Operation and failure of mechanical face seals, An investigation of theL	713	mediaAM	711	Flow in the hydrodynamic entrance region	
Plastic failure of fiber-reinforced mate-		Plastic failure of fiber-reinforced mate- rials	542	of ducts of arbritrary cross sectionHT	345
rials	542	Stresses in fiber-reinforced composites		Gas-lubricated hybrid journal bearings, Steady-state and dynamic analyses of	
procedures and interpretations to fail-		with imperfect bondingAM	865	(D) L	180
ure — safe use of titanium alloysB	614	FIELD, M.		Herringbone grooved, gas lubricated jour-	
FAIRCLOTH, J. M., JR.		Computerized determination and analysis of cost and production rates for ma-		nal bearings, and comparison with ex- periment, An approximate theoretical	
Effect of vibration on heat transfer for	140	chining operations:		analysis of the static and dynamic char-	
flow normal to a cylinderHT	140	Part 2 — Milling, drilling, reaming,	-	acteristics of theL 25; (D) L	
Calcium-sulfate scale on a heated cylinder		and tappingI	585	Herringbone-grooved gas-lubricated jour- nal bearings, Experimental stability	
in crossflow, The formation of, and its		FILAMENTS		studies of theL 52; (AC) L	58
removal by acoustically induced cavita- tion	111	Elastic filament reinforcement of a visco- elastic cylinder. OnAM		FLEXIBILITY	
FANG, KEN SHOU	***	FILMS		Built-in ends of beams and plates, local	
Water jet pumps, Optimum design of		Asymptotic solution for a separating film,		flexibility coefficients for theI 607; (D) I 613; (AC) I	
(D)P	139	An exactL	651	Steering a flexible railway truck on curved	
FANNELOP, T. K.		Binary, gravity-flow film condensation	205	track	908
Three-dimensional boundary-layer flow about an ablating slender coneB	200	Dynamically loaded journal bearings:		FLEXURE	
FARNSWORTH, A. V., JR.	500	maximum film pressureL		Stress-concentration factors in shouldered shafts subjected to combinations of flex-	
Unsteady laminar motion of a Newtonian		534; (D) L 538; (AC) I Eccentric face seal with a tangentially		ure and torsion (D) (AC)I	
fluid contained between concentric ro-		varying film thickness, TheL		FLINN, J. E.	
The state of the s	374	Film condensation, film evaporation, and		Wall-thickness changes and the bulk	
FARRIS, G. J.		single-phase heat transfer for liquid Prandtl numbers from 10° to 10°, Ar		strain behavior of hollow-drawn tubing, Parametric influence on the	
Confined vortex flow, A theoretical and experimental study of	687	analysis ofHT		FLOM, D. G.	
Potential vortex flow adjacent to a sta-		Film condensation in the presence of a		Contact conformity effects on spinning	-
tionary surface (AC)AM	375	roncondensable gas		torque and friction (D)L	580
FASTENERS		friction of thin films, A theory for		FLORES, B.	
Bolt spacing for flange sealing, Analysis of	290	the effectsL 551; (D) L 555; (AC) I	556	Balancing criteria and their relationship to current American practice	
FATIGUE	8	Magnetic and electrical fields in gas lubri- cation, On the influence ofL 203;		FLOW	
Corrosion-fatigue crack propagation stud-		(D) L 208; (AC) L	209	Adhesion and agglomeration of solids dur-	
ies of some new high-strength struc-		Measurement of wall shear stress by means		ing storage, flow, and handling—a sur-	
Corrosion fatigue in surgical implants	570	of an evaporating liquid film; On the		Axisymmetric vortex flow over a flat	
B	581	Total heat transfer coefficient in stable		surface, On theAM	

LOW (Continued)		time-varying pressure gradient and ar-	200	fects turbulent boundary layer thick-	
Boundary-layer velocity distribution in tur- bulent swirling pipe flow, TheB	700	bitrary initial velocity	309	nesses and shape factors for subsonic	
Calculating heat transfer and pressure	728	fluid between rotating disks, with full		compressible gas flow over a flat plate	
drop in ducts with laminar flow, An		peripheral admissions (D)AM 375;			281
approximate method forHT	171		376	Yielding and flow characteristics of low- carbon steel between ambient and liquid	
Combined free and forced laminar convec-		Laminar wake behind a finite flat plate,		nitrogen temperaturesB	603
tion in horizontal rectangular channels, Numerical solution ofHT	59	A numerical solution for the (D) (AC)	907	FLÜGGE, WILHELM (author)	
Confined vortex flow, A theoretical and ex-	00	Linear dynamic modeling of flowing fluid		"Viscoelasticity" (BR)AM	383
perimental study ofAM	687	linesB	740	FLÜGGE-LOTZ, I.	
Critical porosity of free flowing solids,		Low density nozzle flowB	81	Laminar wake behind a finite flat plate,	
The 478; (D) (AC) I	488	MHD flow in a rectangular duct of arbi- trary conductivity for arbitrary Hart-		A numerical solution for the (AC)AM	907
Effect of a suction upon laminar flow along a vertical wall	877	man number, OnAM	702	FLÜGGE'S EQUATION	
Effect of liquid solidification in a parallel	011	Momentum flux in two-phase flowHT	454	Approximate roots of Flügge's character-	
plate channel upon laminar-flow heat		Near-wake of a circular cylinder in cross-		istic equation for the closed cylindrical	
transfer and pressure dropHT	583	flow, The (D) (AC)B	328	shellAM	352
Effect of vibration on heat transfer for		New friction factor for laminar flow in	345	FLUID MECHANICS. See also Acoustics;	
flow normal to a cylinderHT Effects of curvature on laminar boundary	140	circular annuli, A	949	ELASTICITY; GASES; NOZZLES	
layers in sink-type flows		discharge chutes, An investigation of		"Stromungsmechanik" (BR)AM	911
(D) B 358; (AC) B	359	the gravity flow ofI	373	Turbulent, compressible free shear layers,	
Effects of nonuniform inlet velocity pro-		Non-Darcy flow through fibrous porous	m+ 1	Initial development ofB	67
files of flow regimes and performance		media	711	FLUID METERS	
in two-dimensional diffusers B 462; (D) (AC) B	474	in the waste calcining facility, Experi-		Effects of orifice plate eccentricity on	
Effects of orifice plate eccentricity on flow	***	ence with	385	flow coefficients, Experimental study of	
coefficients, Experimental study of the		Oblique-flow headers for heat exchangers,		the	116
B 121; (D) B 561; (AC) B	562	A design method forP	304		110
Entrainment patterns of screw hopper dis-		Potential vortex flow adjacent to a station-	925	FLUIDS ENGINEERING, See also AMPLIFIERS	
chargersI	295	ary surface (D)AM 374; (AC) AM Pressure pulse model for two-phase critical	375	Compressors; Flow; Hydraulics;	
Flow and heat transfer in ducts of arbi-		flow and sonic velocity, AHT 371;		PIPES AND PIPING	
trary shape with arbitrary thermal boundary conditions (D)HT	588	(D) HT 381; (AC) HT	383	Analyzing the turbulent boundary layer	
Flow around a sphere at high Reynolds	000	Progressive waves on swirling cavity flow		with arbitrary pressure gradient, A new	
numbers, Experiments on theAM	598	in a circular pipeB	714	integral method forB 371; (D) B 377; (AC) B	378
Flow between two parallel circular disks,		Pulsatile flow behavior in elastic systems	95	Cavitation tests on hydrofoils designed	
one of which is subject to a normal si-	100	containing wave reflection sitesB Radial heat-flux density distribution in	90	for accelerating flow cascade:	
nusoidal oscillation, TheL	126	fully developed flow of liquid metals in		Report 4 — Three profiles designed for	
rectangular cavityAM	897	circular tubesHT	151	high head Kaplan turbineB 423; (D) (AC) B	432
Flow in the hydrodynamic entrance region		Rate of flow of solids, Effect of injected		Cellular convection by lateral walls, Sup-	400
of ducts of arbitrary cross section HT	345	air on theI	335	pression ofHT	145
Flow of a melted plastic through a screw		Recompression step heat transfer coeffi-		Characteristics with application to fluid	
extruder, Prediction ofB 479; (D) B 488; (AC) B	400	cients for supersonic open cavity flow	168	lines with frequency dependent wall	
Flow of bulk solids, Limit plasticity ap-		Reversed flow in face sealsL	427	shear and heat transfer, A quasi meth-	227
proach to some cases ofI	357	Shock-ionized argon, Alignment charts for		od of	221
Flow of dry bulk solids on bin walls		the properties ofB	555	fluctuating lift, The guasi-steady de-	
I 489; (D) I	492	Slip flow in the entrance of a tubeB	545	sign of aP 31; (D) P 132; (AC) P	133
Flow patterns of granular materials in		Small-amplitude frequency behavior of fluid lines with turbulent flowB	678	Correction for the ordinary Mangler dis-	
flat-bottom binsI 406; (D) (AC) I	413	Storage, flow, and handling of solids,	•10	placement thickness for slender cones	544
Flowability of bins, Effect of initial pres-	410	Opening remarks at the ASME sympo-		Decay of symmetrical laminar distorted	-
sures on1	395	sium onI	293	profiles between flat parallel plates	
Free convective flow patterns in cylindrical		Strictly sinusoidal flow around a station-	707	······································	558
annuli		Thermal effects in face sealsL		Deterioration in heat transfer to fluids at	
nular orifices in the presence of partici-		Thermal entry for low Reynolds number		supercritical pressure and high heat fluxes	
pating bounding wallsAM		turbulent flowB	87	Diffuser performance, Some effects of in-	
Fully developed turbulent flow in the cir-		Three-dimensional boundary-layer flow		let blockage and aspect ratio on	
cular tube and parallel plate chan-		about an ablating slender coneB	632	Eccentric face seal with a tangentially	
nelAM		Transient freezing of liquids in forced flow inside circular tubes		varying film thickness, TheL	
Generalized isentropic variable area com- pressible flow functions for variable		(D) (AC) HT	389	Effects of couple stresses in fluids on heat transfer, On some	
specific heat diatomic gasesAM		Transient heat transfer in MHD plane		Effects of curvature on laminar boundary	
Gravity flows of ideally plastic materials		Couette flowHT		layers in sink-type flows B 353;	
through slots 414; (D) (AC)	421	Transition from supersonic to subsonic		(D) B 358; (AC) E	
Heat transfer and pressure drop in tape		flow at low Reynolds numbers in a tube, OnAM	146	Effects of nonuniform inlet velocity pro-	
generated swirl flow of single-phase		Turbulent heat transfer at low Reynolds	240	files on flow regimes and performance in two-dimensional diffusers B 462;	
waterHT 434; (D) (AC) H7		numbersHT	532	(D) (AC) I	
Heat transfer for flow in a coneH7	173	Two-component stratified flow in a hori-		Effects of sound on jets and flueric de-	
Heat transfer in rough tubes with tape		zontal duct, Experiments onHT		vices, A discussion of the	
generated swirl flowHT		Two-dimensional turbulent wall jet in a		Flow of a melted plastic through a screw	
Heat transfer in turbulent pipe flow with		moving stream, Some properties of the		extruder, Prediction ofB 479 (D) B 488; (AC) I	
optically thin radiationHT 330 (D) H7		(D) (AC)AM Unsteady flow and wake near an oscil-		Free convection through vertical plane	
Heat transfer to mercury flowing in lin-		lating cylinder, The		layers - moderate and high Prandt	1
through an unbaffled rod bundle; ex		(D) B 502, 859; (AC) B 861;		number fluidsHT 391; (D) H7	
perimental study of the effect of roo		(errata) E		Gibson method of water measurement Velocity distribution and its effect or	
displacement on rod-average heat trans		Unsteady flow in a tube with prescribed		the accuracy of theB 434	
fer coefficientsH		dischargeAM		(D) B 438; (AC) I	
Incompressible flow in short vortex cham		Unsteady flow of a viscoelastic liquid		Heat transfer to a fluid flowing inside	
bers, An analytical model for th		under heaviside-type applied magnetic		pipe rotating about its longitudina	
Influence of pressure gradient on turbulen		Unsteady flows in natural gas piping sys-		Heat transfer to carbon dioxide in the im	
flows with asymmetric mean velocity		tems, Analysis and control of B 331;		mediate vicinity of the critical point	
Al		(D) B 338; (AC) E	339	***************************************	r 16
Intense acoustic fields and viscous flui	d	Unsteady free-convection laminar flow		Helium face seal application in a liquid	
flows, On the interaction of	B 74	past a porous wall with time-dependent		oxygen pump, A	
Interface shear stress in annular flow con		Very small diameter laminar flow orifices		Hertzian contact and adhesion of elas	
densation, On theH		An investigation of		Incompressible flow in short vortex cham	
Internal flow heat transfer for polyno		Void fractions in subcooled flow boiling		bers, An analytical model for the	
mial wall temperature distributions, A		V-Al-land V-Al-land		B 264; (D) B 272; (AC) I	
expression for		Vorticity and Kutta condition for unsteady		Influence of surface characteristics on the boiling of cryogenic fluids, The	
Comment from in an amidita with arbitrar		multienergy flowsAM	. 000	bonning of cryogenic fluids, the	

LUIDS ENGINEERING (Continued)	84 (())	FLYNN, P. D.		Frequencies	
Instability of a mechanical system induced	***	Stress concentrations due to semi-circular		Natural frequencies for a system of equal	
by an impinging fluid jetAM Intense acoustic fields and viscous fluid	693	grooves and a circular hole in a tension bar, Photoelastic comparison ofAM	892	inertias and equal spring stiffnesses, On evaluation of	646
flows, On the interaction ofB	74	FOAMS	-	Small-amplitude frequency behavior of	
Laminar inward flow of an incompressible		Syntactic foams, The static strength of		fluid line with turbulent flowB	678
fluid between rotating disks, with full peripheral admission (D)AM 375;		E	551	FRESCO, G. P.	
(AC) AM	376	Foils Disturbance along a foil, On the velocity of		Viscosity-pressure characteristics of liq- uids, Measurement and prediction of	
Lateral vibrations of a rotating shaft in a	400	propagation of aAM	364	L 451; (AC) L	458
viscous fluids	682	FOORD, C. A.		FREUDENSTEIN, F.	
urements ofL	687	Pitting of steel under varying speeds and		Skew four-bar mechanisms, Type deter-	224
Linear dynamic modeling of flowing fluid		combined stressesL 282; (AC) L	293	mination of	
lines	740	Force Elastic orthotropic ellipsoid in a centrif-		chanisms with four or fewer links	
ment of aL	738	ugal force field, AnAM	313		113
Load support and leakage from microas-	240	Rolamite-geometry and force analysis		FRICTION	
perity-lubricated face sealsL	726	Side force problem for abellem believide	191	Film thickness and normal load in the fric- tion of thin films, A theory for the ef-	
Low density nozzle flow	81	Side-force problem for shallow helicoidal shells, The	292		556
fluids to -185 deg C, Analysis of HT	194	FORRESTAL, M. J.		Forced vibrations of a single-degree-of-	
Misaligned, eccentric face seal, TheL	695	Dynamic membrane stress in a circular	-4-	freedom system with Coulomb bearing frictionAM	871
Motion of a flat-plate pendulum in a vis- cous fluid, The	1100	viscoelastic ring	886	Friction and adhesion in deformation proc-	
Nonlinear oscillation of a cylinder con-	1100	a circular cylindrical shell	367	essing, effect of die surface composi-	
taining a flowing fluidI	1147	FOSTER, D. J.			359
One-way air chambers for pumping plants	386	Herringbone grooved, gas lubricated jour-		Friction clutch reverse-reduction gears for the GTS Adm. Wm. M. Callaghan, The	
Operation and failure of mechanical face	900	nal bearing, and comparison with experi- ment, An approximate theoretical analy-		······································	245
seals, An investigation of theL	713	sis of the static and dynamic character-		Heat transfer coefficients and friction fac-	
Oscillation of a gas bubble in an infinite	000	istics of theL 25; (AC) L	35	tors for longitudinally grooved tubes	455
fluid	292	FOULKES MECHANISM		Influence of internal friction on the stabil-	
cally similar bistable amplifiers, The		Foulkes mechanism in portal frame design	72	ity of high speed rotors with anisotropic	
B 257; (D) B 262; (AC) B	263	for alternative loads, OnAM FOUNDATIONS	73	Supports, The	1106
Pressure-exchanger dividers and equal- izers, The performance of		Eigenfunction solution for beam on elastic		ure for 1967L	225
(D) (AC) B	369	foundationAM	799	New friction factor for laminar flow in	
Pressure transients in hydraulic pipelines		Fowles, P. E.		circular annuli, AAM	345
Pulsatile flow behavior in elastic systems	460	Individual asperity-asperity collisions, The		Rolling friction: I—Historical introductionL	260
containing wave reflection sitesB	95	application of elastohydrodynamic lubri- cation theory toL 464; (AC) L	475	II-Cast-iron car wheelsL	
Rayleigh step journal bearing	o mail	Fox. R. W.	100	III—Review of later investigationsL	269
Part II _ Incompressible fluidL	641	Straight channel diffuser performance at		Fu, C. C.	
Real fluid flow over yawed circular cylin-		high inlet Mach numbers (D)B	412	Dynamic stability of a vibrating hammer	1175
ders, On (D) (AC)		FRACTURE		Impact system connected with rock drill-	****
Response of a fluidic air gaugeB 475; (D) B		Alloy steel dynamic strain-aging and notch		ing, Dynamic stability of anAM	743
Reversed flow in face sealsL		brittle fracture		Fuchs, H. O.	
Reversible pump-turbine, Index method		sile fracture ofB		Crack growth under cyclic compression	631
for pumping operation ofB	103	Double-notch creep rupture of 5 Cr - 0.5		(D)B FUELS TECHNOLOGY	001
Self-energized hydrostatic shaft seals,		Mo steelsB		Convective heat transfer in a gas-fired	
An analysis ofL		Dynamic fracture testing, Basic concepts for		pulsating combustorP 48;	
Shock-ionized argon, Alignment charts for the properties of		Dynamic fracture toughness of A533 steel		(D) P 134; (AC) P	137
Slip flow in the entrance of a tubeB		В		Critical heat flux measurements in a 16- rod simulation of a BWR fuel assembly	
Spiral-grooved screw seal for turbulent		Dynamic tear test, Mechanical aspects of theB		HT 355; (D) HT 361; (AC) HT	362
operation, Theoretical analysis ofL		Fracture criteria for combined extension	000	Massive recirculation as a method of mini-	
Straight channel diffuser performance at		and bending, An experimental investiga-		mizing corrosion in the combustion of residual fuels	
high inlet Mach numbersB 397; (D) B 412; (AC) B		Plain-strain crack toughness values of a		(D) P 205; (AC) P	206
Stream deflection produced by a cascade of		structural steel, Factors influencing the		Movement of fuel elements in the core of	
jet flap airfoils		R	506	a pebble bed reactor, Investigations on the	390
Theory of the mechanism of sealing with		Static and dynamic low-temperature K _{Ic}	E10	FULLER, D. D.	500
application to face sealsL		Temperature transition from linear elastic	512	Self-acting gas-lubricated bearings, A re-	
Thermal effects in face sealsL		to gross strain fracture conditions, Dy-		view of the state-of-the art for the de-	
Thermal entry for low Reynolds number turbulent flow		namic tear test definition of theB	108	sign ofL	. 1
Thermal instability in fluid layers in the		FRAMES		FUNABASHI, H. Balancing of the fluctuating input torques	
presence of horizontal and vertical tem-		Foulkes mechanism in portal frame de- sign for alternative loads, OnAM		caused by inertia forces in the crank-	
perature gradientsAM 121;		FRANCIS, P. H.		and-rocker mechanisms, On theI	97
(D) (AC) AM		Surface microcracks in fatigue, The		Fung, Y. C.	
Unsteady flow and wake near an oscillat- ing cylinder, TheB 493; (D) B 502		growth ofB		Peristaltic transport (AC)AM Peristaltic waves in circular cylindrical	379
859, (AC) B 861; (errata) E		FRANKE, M. E.		tubesAM	579
Unsteady flows in natural gas piping sys-		Effect of vortices induced by corona dis-			
tems, Analysis and control of B 331;		charge on free-convection heat trans-			
(D) B 338; (AC) E		fer from a vertical plateHT 427; (AC) HT		The second secon	
Unsteady laminar motion of a Newtoniar fluid contained between concentric rotat-		FRASER, W. B.	aliana.	6	
ing cylinders (D) (AC)AM		Buckling of a column with random initial	1000	Marketon W. Collection and Consultation	
Very small diameter laminar flow orifices		deflections, TheAM	233	GADDIS, J. L.	
An investigation of	546	FRAUENTHAL, J. C.	-11	Improved linearized velocity profiles for	
Vibration of axially excited circular cylin-		Elastic postbuckling behavior of stiffened		turbulent free shear layersAM	657
drical shells containing fluid, Experi- mental studies of		and barreled cylindrical shellsAM Optimal arches, OnAM		Turbulent boundary layer, with emphasis	
Vibration of containing structures by		FREDERKING, T. H. K.	. 000	on interfacial conditions, A two-region	
sound in the contained fluid		Incipient and nucleate boiling of liquid	1	model of theAM	664
Water-hammer attenuation with a tapered	1	hydrogen (D)		Gage length errors in plastic-strain wave	
line B 341; (D) B 351; (AC) I	352	FREEZING		measurementAM	870
Water jet pumps, Optimum design of		Heat-conduction problems with melting or		Response of a fluidic air gaugeB 475;	-
P 62; (D) P 137; (AC) I		freezingHT 421; (D) (AC) HT	426	GAJEWSKI, R. R.	478
Yards Creek pumped storage project, Ex- periences on startup and trial operation		Transient freezing of liquids in forced flow inside circular tubes	- 1	Ellipsoidal heads, An evaluation of ASME	
atB 387; (D) B 395; (AC) I		(D) (AC) HT			636

GAKENHEIMER, D. C.		GENERATORS		GOUSE, S. WILLIAM, JR.	
Transient excitation of an elastic half		Circular cylindrical shell supported along	888	Aerodynamic drag on vehicles in tunnels	694
space by a point load traveling on the surface	505	Drag and heat transfer from a circular	000	GRANULAR MATERIALS	
GALERKIN METHOD		cylinder normal to an airstream, The in- fluence of vortex generators on theHT	91	Flow patterns of granular materials in flat-bottom bins I 406; (D) (AC) I	413
Temperature development in the entrance region of an MHD channel, The solution		Four bar function generators, Automatic design of	193	Granular solid discharged from a bin, Air pressure in the bulk of	382
of, by the B. G. Galerkin methodHT	212	GEOMETRY	100	Noncohesive granular materials through	002
GALLAGHER, J. P. Environmentally assisted fatigue crack		Plane strain in plasticity, The application of an orthogonal net of circles to the		discharge chutes, An investigation of the gravity flow of	373
growth rates in SAE 4340 steelB	598	problem ofAM	736	Permanent compression of a rigidly con-	
GAMBILL, W. R. Heat transfer and pressure drop in tape-		GERECKE, H.		tained granular bed following impact with a rigid body	545
generated swirl flow of single-phase		Pressure attenuation in long rarefaction wave tubesI	497	Pneumatic transport of fine granular	315
water (D)HT	442	GERLACH, C. R.		materialI	910
GAONKAR, G. H. Uniaxial loading in an elastic continuum		Flow-induced vibrations of metal bel- lows	1196	Analyzing the turbulent boundary layer	
with a doubly periodic array of material	194	GHOSH, BASUDEV	1100	with arbitrary pressure gradient, A new integral method for (D)B	377
GARNET, HYMAN	104	Moisture stresses in a long hollow wood		GRAPER, E. B.	
Free vibrations of reinforced elastic shells	007	pole of constant outer and inner radius in a state of plane strain	641	Metal ammonia solutions as heat trans- fer fluids to -185 deg C, Analysis of	
GARRETT, R. E.	835	GIBSON METHOD		IT	194
Effect of tolerance and clearance in link-		Gibson method of water measurement, Velocity distribution and its effect on		GRAVITY Laminar film condensation of a flowing	
age design I 198; (AC) I	202	the accuracy of the B 434;	440	vapor on a horizontal cylinder at nor-	495
GASES. See Also NATURAL GAS Earth-storable liquid bipropellants with		(D) B 438; (AC) B Giesing, J. P.	445	mal gravity	
gaseous reactants, Simulation ofAM	347	Vorticity and Kutta conditions for un-		beams subjected to gravityAM	323
Effects of some gaseous environments on the creep of a stainless steel, TheB	575	steady multienergy flowsAM	608	Green's Function for the stress-intensity	
Film condensation in the presence of a noncondensable gas	447	GIFFORD, W. E. Small cryogenic regenerator performance		factors of edge cracks and its applica- tion to thermal stresses, AB	418
Full journal bearing lubricated with elec-	***	I	273	GREENWOOD, J. A.	010
troconducting gases, Some character- istics of aL	199	GILLIS, P. P.		Rough surfaces and flats, The area of	004
Gas solids suspension convective heat	100	Determination of stress, strain, strain- rate relations from dynamic beam tests,		GREENWOOD, T. F.	224
transfer at a Reynolds number or 130,- 000 (D)HT	203	On theAM	632	Improved linearized velocity profiles for	
Generalized isentropic variable area com-		GIUNTA, J. S. Flow patterns of granular materials in		GREIF. R.	657
pressible flow functions for variable spe- cific heat diatomic gases	365	flat-bottom bins 406; (AC) I	413	Heat transfer in turbulent pipe flow with	
Heat transfer and laminar boundary-layer		GIVENS, E. J.		optically the radiation	330
distributions in an internal subsonic gas stream at temperatures up to 13,900		Spatial mechanisms, Dynamic character- istics of	234	approximate resultsHT	282
deg RHT	83	GLAESER, W. A.		GRIER, N. T. Radiation view factors for a toroid: com-	
Oscillation of a gas bubble in an infinite fluid	292	Residual stress induced during rolling, A		parison of Eckert's technique and direct	
Thermal entry for low Reynolds number	97	study of (D)L. GLICKSMAN, L. R.	655	computationHT	459
turbulent flow	87	Heat transfer in turbulent pipe flow with		GRIFFIN, W. S. Fluid-jet amplifier with flat saturation	
free convection boundary layer of an ab-	977	optically thin radiation (D)HT		characteristics, AB	734
Sorbing gasHT Thermal transpiration for the development	37	Radiative energy transfer in an absorbing and emitting media, An approximate		GRIFFITH, PETER	
of a new type of gas pump, A study ofP	207	method for multidimensional problems ofHT		Deterioration in heat transfer to fluids at supercritical pressure and high heat	
Transient heat transfer in closed contain-	201	GOLDSCHMIDT, V. W.	002	fluxesHT	27
ers after gas injection	461	Unsteady flow and wake near an oscillat-		GRIM, G. B. Dynamically leaded journal bearings: max-	
flow at low Reynolds numbers in a tube,		ing cylinder, The (D)B 502,	859	imum film pressure (D)L	539
On	146	GOLDSMITH, W. Longitudinal impact on a hollow coneAM	445	GRINDING	
lary-tube gas viscosimeterAM	171	GOLDSTEIN, M. E.		Biaxial residual surface stresses from grinding and finish machining 304	
GASKETS		Effective slip coefficients for coupled con- duction-radiation problemsHT		stainless steel determined by a new dis-	15
Application of primary sealing criteria to a self energized gasket 553;		GOLDSTEIN, P.	100	Grinding process instabilityI	15 597
(D) (AC) I	561	Internal corrosion of high-pressure boilers,		Shaft surface finish is an important part	
GEARHART, W. S. Compressor or pump stage for minimum		A research study on — final reportP GOODE, R. J.	75	of the sealing system (D)L 212; (AC) L	214
fluctuating lift, The quasi-steady design		Stress-corrosion-cracking characterization		Grob, A. K.	
of aP 31; (AC) P	133	procedures and interpretations to failure		Interferometric technique for measuring binary diffusion coefficients, AnHT	
Friction clutch reverse-reduction gears for		— safe use of titanium alloys	014	259; (AC) HT	266
the GTS Adm. Wm. M. Callaghan, The	045	Yielding and flow characteristics of low-		Grolmes, M. A. Pressure pulse model for two-phase criti-	
Gear design and laboratory experience —	245	carbon steel between ambient and liquid nitrogen temperaturesB		cal flow and sonic velocity, A (D)HT	381
marine gas turbine propulsionP Lubrication review: a digest of the litera-	263	GOODMAN, L.		GROOVES Deep groove rolling contact parameter,	
ture for 1967L	225	Implantable valveless heart assist pump		AL	276
Noise of involute helical gearsI	165	GOODMAN, T. R.	289	Heat transfer coefficients and friction factors for longitudinally grooved tubes	
Gebben, Vernon D. Performance characteristics of geometri-		Heat-conduction problems with melting or		НТ	455
cally similar bistable amplifiers, The		freezing (D)HT Transient freezing of liquids in forced flow	426	Spiral-grooved screw seal for turbulent operation, Theoretical analysis ofL	675
(D)B	263	inside circular tubes (D)HT	389	Stability characteristics of gyroscopes	
GEBHART, B. Hot-wire anemometer calibration for meas-		GORMAN, D. J.		with hydrodynamic-grooved rotor bear- ingsL	609
urements at very low velocityHT	241	New friction factor for laminar flow in circular annuli, AAM		Stress concentrations due to semicircular	
Natural convection flow, instability, and transition	293	GORTON, R. L.		grooves and a circular hole in a tension bar, Photoelastic comparison ofAM	892
GEERS, T. L.		Ammonia as a reactive transpiration cool-		Gross, W. A.	
Excitation of an elastic cylindrical shell by	400	ant in porous body cooling, An experi- mental study ofHT		Externally pressurized gas bearing tech- nology since 1959, A review of develop-	
a transient acoustic waveAM	459	GOTTENBERG, W. G.		ments inL	161
Generating functions Generating functions in applied mechanics,		Nonlinear viscoelastic solid in uniaxial tension, An experimental study of a		GROSSMAN, P. L. Nonlinear vibrations of shallow spherical	
Origin ofAM	875	АМ	558	shellsAM	451

GROUNES, M.		HALL, ALLEN S., JR.		HEAT EXCHANGERS	
Reaction-rate treatment of the extrapola- tion methods in creep testing, AB	***	Effect of tolerance and clearance in link-		Oblique-flow headers for heat exchangers,	304
Reaction-rate treatment of the life frac-	59	age design	909	A design method forP	904
tion hypothesis in creep testing, AB	56	HAM, I,	202	HEAT PIPES	
GUERECA, R. A.		Tool wear, Analysis of		Heat pipes operating at low vapor pres- sures, Theoretical investigation of (D)	
Unsteady pressure differential in a capil-		Part 1: Theoretical models of flank		(AC)	288
lary-tube gas viscosimeterAM	171	wearI	790	HEAT SOURCES, MOVING	
Gugliuzza, T. A. Gear design and laboratory experience—		HAMILL, T. D.		Temperature distributions in solid and	
marine gas turbine propulsionP	263	Hyperbolic heat-conduction equation — a solution for the semi-infinite body prob-		hollow cylinders due to a moving circum-	
GUINS, S. G.		lemHT	543	ferential ring heat sourceHT	465
Hunting of railway vehicle on test stand,		HAMMERS		HEAT TRANSFER. See also ABLATION; BUBB	LES;
Problems on (D)	886	Dynamic stability of a vibrating hammer		CYLINDERS; FILMS; METALS; PLA	TES:
Lateral dynamics of railway vehicles, General aspects of the	875	W B. C	1175	Walls	17.0
Gumowski, I. (co-author)	0.0	HAMMITT, F. G. Cumulative collapse of cavitation cavities,		Accelerating turbulent boundary layers,	
"Optimization in Control Theory and		On (D)B	857	An aspect of heat transfer inHT	229
Practice" (BR)AM	383	HAMROCK, B. J.		Ammonia as a reactive transpiration cool-	
GUNTER, E. J., JR.		Rayleigh step journal bearing		ant in porous body cooling, An experi- mental study ofHT	561
Influence of internal friction on the sta-		Part II — Incompressible fluidL	641	Binary, gravity-flow film condensation	
bility of high speed rotors with aniso- tropic supports, TheI	1105	HANBY, V. I.			205
Turborotor instability: effect of initial		Convective heat transfer in a gas-fired pulsating combustorP		Calculating heat transfer and pressure	
transients on plane motion (D)L	630	48; (AC) P	137	drop in ducts with laminar flow, An ap- proximate method forHT	171
GUPTA, GOPAL K.		HANDBOOKS. See LITERATURE		Calorimeter apparatus to measure the en-	
Hot-wire anemometer calibration for		HANDELMAN, G. H.		thalpy difference of heavy water, A HT	235
measurements at very low velocity (D)HT	588	Diffraction of horizontal shear waves by		Circular fins of triangular profile, Effici-	181
GUPTA, RAVINDRA K.		a half planeAM		ency of	101
Roberts' cognates of space four-bar mech-		Spatial mechanisms with several degrees of mobility by means of transmission		transfer from a heated tube to a trans-	
anisms with two general constraints		functions, A kinematic investigation		verse air streamHT	457
(D)	127	of		Combined free and forced laminar convec-	
matrices with dual-number elements,		HANSBERRY, J. W.		tion in horizontal rectangular channels,	59
Displacements analysis of (D)I	156	Elastic behavior of two normally inter-		Numerical solution forHT Convective heat transfer in a gas-fired	00
Spatial motions I - point paths of mech-		secting cylindrical shells	563	pulsating combustorP 48;	
anisms with four or fewer links (D)I	113	Hanson, F. B. Near-wake of a circular cylinder in cross-		(D) P 134; (AC) P	137
GURTMAN, G. A.		flow, The (AC)		Correlation of pool-boiling data, A new —	
Dispersive pulse propagation parallel to the interfaces of a laminated com-		HAPEMAN, M. J.		including the effect of heating surface characteristics	245
positeAM	479	Transit propulsion unit suspension, A		Critical heat flux measurements in a 16-	
Gustafson, R. D.		new — proved on Northeast Corridor		rod simulation of a BWR fuel assembly	
Nonlinear optimal control by use of extra		high-speed test cars	897		362
linear states to represent nonlineari-	149	HARARI, O. Buckling of cylindrical shells with axial		Deterioration in heat transfer to fluids at supercritical pressure and high heat	
tiesB 139; (AC) B GUSTAFSON, W. A.	147	surface tractionsAM		fluxesHT	27
Effects of curvature on laminar boundary		HARGETT, W. H.		Differential approximation for spherically	
layers in sink-type flowsB		Gear design and laboratory experience -		symmetric radiative transfer, An evalu-	75
353; (AC) B	359	marine gas turbine propulsionP	263	Drag and heat transfer from a circular	78
GYROSCOPES		HARRACH, W. G.		cylinder normal to an airstream, The in-	
Gas-bearing gyro development in the		Motion of a flat-plate pendulum in a viscous fluid, The		fluence of vortex generators on theHT	91
United Kingdom, Review of (D)L 218; (AC) L	221	HARRIS, T. A.		Effect of liquid solidfication in parallel	
Gyroscopic systems as vibration absorbers		Contact conformity effects on spinning		plate channel upon laminar-flow heat transfer and pressure drop	588
	1156	torque and friction (D)		Effect of vibration on heat transfer for	
Offset unsymmetric gyroscopic with ob- lique rotor using (3 x 3) matrices with		Cylindrical roller bearings having crowned rolling members, The effect of mis-		flow normal to a cylinderHT	140
dual-number elementsI		alignment on the fatigue life ofL		Effect of vibration on heat transfer from	
535; (D) I-541; (AC) I	542	294; (AC) I		spheres	344
Stability characteristics of gyroscopes		HARRISBERGER, L.		Effect of vortices induced by corona dis-	
with hydrodynamic-grooved rotor bear- ings	600	Roberts' cognates of space four-bar mech-		charge on free-convection heat transfer	
b	000	anisms with two general constraints		from a vertical plateHT 427; (D) HT 432; (AC) HT	435
		I 123; (AC) I	128	Effective slip coefficients for coupled con-	40,
		HARRJE, D. T.		duction-radiation problemsHT	168
U		Convective heat transfer in a gas-fired pulsating combustor (D)P		Effects of couple stresses in fluids on heat	***
The state of the s		HARTMAN NUMBER		Exact solution for the "radiation layer"	181
HAAS, E.		MHD flow in a rectangular duct of ar-		over a flat plateHT	188
Positive action seals in Europe (D)L	216	bitrary conductivity for arbitrary Hart-		Explicit heat conduction equations at	
HAAS, S. L.		man number, OnAM	702	thermally insulated surfaceHT Film boiling heat transfer from an oscil-	446
Four-bit binary adding mechanism, Struc-		HARWOOD, R. A.		lating sphere	
tural synthesis of aI		Nonlinear optical control by use of extra linear states to represent nonlinearities		(D) HT 271; (AC) HT	272
U.men I C 240; (AC) I	249	В 139; (АС) В		Film condensation, film evaporation, and	
HABIB, I. S. Heat transfer in turbulent pipe flow with		Наѕнімото, Н.		single-phase heat transfer for liquid Prandtl numbers from 10° to 10°, An	
optically thin radiationHT	330	Progressive waves on swirling cavity flow		analysis ofHT	413
Infrared radiation transport: exact and		in a circular pipeB	714	Film condensation in the presence of a	
approximate resultsHT	282	HASHITSUME, N. (co-author)		noncondensable gasHT	447
Haddow, J. B. Some steady-state plastic deformation		"Thermodynamics" (BR)AM	382	Flow and heat transfer in ducts of arbri- trary shape with arbitrary thermal	
processes, A new upper-bound method		HAYDL, H. M.		boundary conditions (D)HT	588
for analysis of (D)I	741	Eigenvibrations of barrel-shaped thin shellsAM		Flow in the hydrodynamic entrance region	
HAGEN, D. H.		HAYS, D. F.	Jan	of ducts of arbritrary cross sectionHT Forced laminar flow convection in a hori-	345
Lateral stability of road and rail trailers	1000	Dynamically loaded journal bearings:		zontal tube with variable viscosity and	
HAHN, R. S.	1069	maximum film pressureL		free-convection effectsHT	251
Chatter vibrations, The modulation of		Gas-lubricated porous bearings, A survey		Free-convection heat transfer through an	
(D)I	678	of (D)L	222	enclosed vertical liquid layer with a vertical baffle, Exploratory studies of	
Prevention of chatter vibration in boring		HEADERS		vertical barrie, Exploratory studies of	163
operations, Some considerations on (D)	790	Oblique-flow headers for heat exchangers, A design method forP		Free convection through vertical plane	
HAINES, D. J.	120	HEART	0.7	layers — moderate and high Prandtl	40.
Deep groove rolling contact parameter,		Implantable valveless hears assist pump		number fluidsHT 391; (D) HT Free convective flow patterns in cylin-	401
AL	276	B 284; (D) B 288; (AC) B	289	drical annuliHT 310; (D) (AC) HT	314

EAT TRANSFER (Continued)		One-dimensional heat-conduction problems		Variation of local film coefficients of fin	-
Gas solids suspension convection heat		with nonlinear boundary conditions, The transient temperature distribution in		performance, Effect of	21
transfer at a Reynolds number of 130,- 000 (D)HT	203	**************************************	77	Void fractions in subcooled flow boiling	471
Heat conduction in thin surface layers,	200	Optical constants of soot and their applica-		HEATERS	
An improved theory forHT	585	tion of heat-flux calculationsHT	100	Corrosion of carbon steel tubed feedwater	
Heat-conduction problems with melting or	498	Oscillation of a gas bubble in an infinite fluid	292	heaters, Effect of water chemistry and	109
freezingHT 421; (D) (AC) HT Heat pipes operating at low vapor pres-	426	Pool boiling heat transfer from teflon-	402	Optimization of heater design cont tions in	102
sures, Theoretical investigation of (D)		coated stainless steelHT 364;		power plant cyclesP 159;	
(AC)I	288	(D) HT 369; (AC) HT	370	(D) P 170; (AC) P	171
Heat transfer and laminar boundary-layer		Pool-boiling heat transfer to liquid helium, The influence of nuclear radiation on		HEATING	
distributions in an internal subsonic gas stream at temperatures up to 13,900		501; (D) I 506; (AC) I	507	Effect of heating time on thermally in-	940
deg RHT	83	Porous wall cooling, Comment on an in-		duced stress waves, TheAM Influence of dissipative heating on the loss	340
Heat transfer and pressure drop in tape-		vestigation ofHT	284	factor of a viscoelastically damped	
generated swirl flow of single-phase		Pressure pulse model for two-phase crit-		beam, The	975
waterHT 434; (D) (AC) HT	442	ical flow and sonic velocity, AHT 371; (D) HT 381; (AC) HT	383	HEINZER, ANDRE	
Heat transfer between the surfaces as a secondary effect in gas lubrication,		Radial heat-flux density distribution in	000	Wake observations for oscillating cylin-	
Note on the influence of theL	194	fully developed flow of liquid metals in		dersB	850
Heat transfer by conduction and radiation		circular tubes	151	HELFANT, M. A.	
with temperature-dependent thermal	150	Radiant heat exchange, A rapid iteration method for	581	Heat transfer to mercury flowing in line	
conductivity	159	Radiation incident on a temperature sensor		through an unbaffled rod bundle: ex- perimental study of the effect of rod dis-	
tors for longitudinally grooved tubes		situated in a tube having nonisothermal		placement on rod-average heat transfer	
НТ	455	wallsHT	285		568
Heat transfer for flow in a coneHT	173	Radiation transfer from a metal to a finely divided particulate mediumHT	154	HELIUM	
Heat transfer in rough tubes with tape-	443	Radiation view factors for a toroid: com-	104	Helium face seal application in a liquid	
generated swirl flowHT Heat transfer in the oscillating turbulent	440	parison of Ecker's technique and direct		oxygen pump, AL	668
boundary layerP	239	computationHT	459	Pool-boiling heat transfer to liquid helium,	
Heat transfer in turbulent pipe flow with		Radiative energy transfer in an absorbing		The influence of nuclear radiation on	507
optically thin radiationHT 330;	007	and emitting media, An approximate method for multidimensional problems of			
(D) HT Heat transfer of thin fins with stochastic	335	HT	502	HELLER, STANLEY	
root temperatureHT	129	Radiative transfer characteristics of mate-		Incompressible hybrid journal bearing with cavitation, A numerical solution for the	
Heat transfer to a fluid flowing inside a		rialsHT	1	······	508
pipe rotating about its longitudinal	***	Recompression step heat transfer coef-		Lubrication review (digest of 1967 liter-	
Heat transfer to carbon dioxide in the im-	135	ficients for supersonic open cavity	168	ature):	
mediate vicinity of the critical pointHT	16	Resistances to heat and momentum trans-	100	Incompressible fluid-film lubrication and bearingsL	229
Heat transfer to mercury flowing in line		fer in the viscous sublayer at rough		HELMHOLTZ EQUATION	
through an unbaffled rod bundle: ex-		walls, Some correlations forHT	488	Lower bound to the nth eigenvalue of the	
perimental study of the effect of rod		Stability of slip flows in parallel heated	540	Helmholtz equation over two-dimension-	
displacement on rod-average heat trans-	568	passages, On the	549	al regions of arbitrary shapeAM	630
fer coefficients	900	thermal network model errorsHT	554	HENDERSHOT, K. C.	
The influence ofHT	152	Steam bubble collapse, On some aspects		Earth-storable liquid bipropellants with	
Hot-wire anemometer calibration for meas-		ofHT	537	gaseous reactants, Simulation ofAM	347
urements at very low velocityHT 241;	EDO	Temperature development in the entrance region of an MHD channel, The solution		HENDERSON, C. L.	
(D) HT Hyperbolic heat-conduction equation — a	588	of, by the B. G. Galerkin methodHT	212	Film condensation in the presence of a	
solution for the semi-infinite body prob-		Temperature profiles measured in the		noncondensable gasHT	447
lemHT		thermal sublayer of water, Freon-113,		HENDERSON, R. E.	
Hysteresis effects in surface boiling of		and methyl alcohol during pool boiling,	107	Compressor or pump stage for minimum fluctuating lift, the quasi-steady design	
waterHT Impingement cooling of concave surfaces	160	A study of (D)HT 196; (AC) HT Theoretical polarization of off-specular re-	197	of aP 31; (AC) P	
with lines of circular air jetsP 149;		flection peaksHT	287	HENRY, L. R.	
(D) P 155; (AC) P		Thermal radiation effects on the laminar		Unsteady flows in natural gas piping sys-	
Improving the accuracy of Crank-Nicolson		free convection boundary layer of an ab-	97	tems, Analysis and control of (D)B	338
numerical solutions to the heat-conduc- tion equation	189	Thermal transients in plane walls, cylin-	37	HENRY, R. E.	
Infrared radiation transport: exact and ap-	100	ders, and spheres, Effect of container		Pressure pulse model for two-phase critical	
proximate resultsHT	282	capacitance onHT	67	flow and sonic velocity, A (D)HT	382
Interface shear stress in annular flow con-		Total heat transfer coefficient in stable		HENRY, R. J.	
densation, On the		film boiling from vertical plate, Analyt- ical derivation forHT	452	White etching material outlining shell-type cracks in rail-heads, The cause ofB	
binary diffusion coefficients, An		Transient freezing of liquids in forced flow	400		040
		inside circular tubesHT 385;		HENRY, T. A. Vibration amplitudes of compressor blades	
Internal flow heat transfer for polynomial		(D) (AC) HT	389	resulting from scatter in blade natural	
wall temperature distributions, An ex- pression for		Transient heat and mass transfer to a translating droplet		frequenciesP 182; (AC) P	
Laminar film condensation of a flowing	110	(D) HT 280; (AC) HT	281	HERMAN, HERBERT (editor)	
vapor on a horizontal cylinder at nor-		Transient heat transfer in closed contain-		"Advances in Materials Research" Vol. 3	
mal gravityHT		ers after gas injectionHT	461	(BR)AM	911
Laminar forced convection in regular po-		Transient heat transfer in MHD plane	184	HERREBRUCH, K.	
lygonal ducts with uniform peripheral heat fluxHT		Couette flowHT Transient temperature and thermal		Dynamically loaded journal bearings: max-	
Laminar, transition, and turbulent bound-		stresses in skin of hypersonic vehicle		imum film pressure (D)L	900
ary-layer heat-transfer measurements		with variable boundary conditions		HERRMANN, G.	
with wall cooling in turbulent airflow		(D)HT	464	Instability of a mechanical system induced by an impinging fluid jetAM	
through a tube	477	Turbulent heat transfer at low Reynolds numbers	****	HERSEY, MAYO D.	-
boilingHT 404; (D) HT 411; (AC) HT		Turbulent natural convection boundary		Rolling friction:	
Microlayer thickness in nucleate boiling		layers, An experimental study ofHT		I-Historical introductionL	
An analytical expression ofHI	178	Two-component stratified flow in a hori-		II—Cast-iron car wheelsL	
Migrational properties for the steady		zontal duct, Experiments onHT		III—Review of later investigationsL	269
forced vaporization of waterHT		Two-phase turbulent jet prediction analy-		HESS, M. S.	
Momentum flux in two-phase flowHT		sisHT		Eigenfunction solution for beam on elas- tic foundation	
Monte Carlo method, A modification of the		Unsteady heat transfer from a rotating			
— the Exodus method (D) (AC)HT Natural convection flow instability, and		diskHT		Hetsnoni, G. Two-phase turbulent jet prediction anal-	37
transition		Unsteady temperature distribution in a sphere subjected to time-dependent sur-		ysisHT	
Natural convection local heat transfer or		face heat flux and internal heat source		Velocity and droplets concentration in two-	
constant-heat-flux inclined surfaces H'		НТ		phase flows, Measurements ofAM	334
Nucleate pool boiling of sodium, The		Variables affecting the dynamic response	01001	HETTWER, P. F.	
mechanism of and stability criterion for		of thermocouples attached to thin-	100	Aluminum wire by cold hydrostatic ex-	0 000
	r 329	skinned modelsHI	166	trusionI	. 022

HEYMANN, F. J.		Howell, J. R.	n La	Hydrogen	
Shock wave velocity and impact pressure		Effective slip coefficients for coupled con-	105	Hydrogen damage in carbon steel, Some	-
in high-speed liquid-solid impact, On the (AC)	134	duction-radiation problemsHT	165	factors controlling P Incipient and nucleate boiling of liquid hy-	72
Turbine blade vibration due to nozzle		Intense acoustic fields and viscous fluid		drogen	
wakesP	223	flows, On the interaction ofB	74	(AC) I 519,	920
HEYN, W. O.		Hsing, F. C.		Tubular stress-rupture testing of chromi- um-molybdenum steels with high-pres-	
Shaft surface finish is an important part of the sealing system (AC)L	914	Pulsating flows in infinite and finite con-	170	sure hydrogenB	590
Hill W. G., In.		ical nozzles, Analysis ofAM Spiral-grooved thrust bearings, Mean free	159	Hydrostatics	
Turbulent, compressible free shear layers,		path effect inL	69	Dynamic stiffness of controlled hydrostatic	
Initial development ofB	67	Hsu, T. C.		bearings, TheL	597
HILL EQUATION		Wear on cemented carbide cutting tools,		Inertia effects in MHD hydrostatic thrust	
Stability of Hill's equation with four inde-	005	A study ofI	652	bearingL. Self-energized hydrostatic shaft seals, An	589
pendent parameters, On theAM	999	Hsō, T. R.		analysis ofL	658
HILLIER, M. J. Cup drawing from an anisotropic blankI	766	Thermal shock on a finite disk due to an instantaneous point heat sourceAM	112	Hysteresis	
New processes of cup drawing, The me-		Hu. P. Y.	***	Hysteresis effects in surface boiling of	
chanics of someAM	304	Response of linear systems magnitude lim-		waterHT	160
Plastic tensile instability criteria, On the	440	ited random excitationI	991		
HINGLEY, C. G.	663	HUANG, JU-CHIN			
Pitting of steel under varying speeds and		Clamped bar, Nonlinear analysis for a	255		
combined stressesL 282; (AC) L	293	HUANG, N. C.	000	The same of the control of the control of the	
HLAVAC, P. J.		Elastic filament reinforcement of a visco-		THE PARTY NAMED IN COLUMN TWO	
Heat transfer to mercury flowing in line		elastic cylinder, OnAM	573	IBERALL, A. S.	
through an unbaffled rod bundle: ex- perimental study of the effect of rod		Thermal buckling of shallow bimetallic	700	Complex living systems, The organizing	
displacement on rod-average heat trans-		two-hinged archesAM HUANG, T. C.	108	principle ofB	290
for coefficientsHT	568	Self-sustained two-degrees-of-freedom sys-		ICHIMURA, H. (co-author)	
Hodgson, A. S.		tem with nonlinear damping, Response		"Thermodynamics" (BR)AM	382
Hysteresis effects in surface boiling of	100	and stability of aI	1047	IIDA, SOUSHIRO	
waterHT	160	HUBBARD, R. P.		Crack-propagation rate in 7075-T6 plates	
HOEL, D. G. Engineering analysis of experimental data		Crack growth under cyclic compression B 625; (AC) B	631	under cyclic tensile and transverse shear loadings	764
(D)P	130	HUBBELL, R.	001	IMPACT	
HOFFMAN, O.		Molybdenum disulfide lubricants in radi-		Axial impact of short cylindrical barsAM	809
Syntactic foams, The static strength		ation and vacuum environments, A test		Dynamic stability of a vibrating ham-	
ofAM	551	of(D)L	396	merI	1175
Holes Finite deflections of an elastic circular		HUDDLESTON, J. V. Finite deflections and snap-through of high		Impact system connected with rock drill- ing, Dynamic stability of an	743
plate with a central holeAM	285	circular arches (AC)AM	653	Instability of a mechanical system induced	****
Stress concentrations due to semi-circular		Hudson, J. L.	000	by an impinging fluid jetAM	693
grooves and a circular hole in a tension	000	Unsteady heat transfer from a rotating		Longitudinal impact on a hollow coneAM	445
bar, Photoelastic comparison ofAM HOLLIDAY, W. G.	892	diskHT		One-dimensional impact waves in inho- mogeneous elastic mediaAM	803
Flat disk squeeze-film bearing, Experiment		HUMAN FACTORS ENGINEERING. See BI		Periodic motions of a two-body system	000
and analysis of a — including effects of		CHANICS AND HUMAN FACTORS ENGIS	VEER-	subjected to repetitive impactI	931
supported mass motionL	138	ING		Permanent compression of a rigidly con-	
HOLTZ, ROBERT E.		HUMMEL, R. L.		tained granular bed following impact with a rigid bodyAM	545
Incipient boiling superheat in liquid metals	000	Pool boiling heat transfer from teflon-	940	Shock wave velocity and impact pressure	
(D)HT 199, Homsy, G. M.	200	coated stainless steel (D)HT	369	in high-speed liquid-solid impact, On	
Unsteady heat transfer from a rotating		HUMPHREY, R. A.			134
diskHT	162	Stochastic testing methods for fluid am- plifiers (D)	216	IMPEDANCE	
Hook, J. F.		Hung, H. M.		Application of controlled mechanical im- pedance for reducing machine tool vi-	
Generating functions in applied mechan-		Heat transfer of thin fins with stochastic		brationsI	1057
ics, Origin ofAM HOPENFELD, J.	875	root temperatureHT	129	Indenters	
One-dimensional equilibrium cutting gap		HUNT, K. H.		Computerized relaxation applied to the	
in electrochemical machining, Predic-		Gross motion attributes of certain spatial	00	plane-strain indenterB	816
tion of the 755; (AC) I	765	Symmetric overstrained linkages (D)I	162	INERTIA	
HOPFINGER, E. J.		HUNTER, D. O.		Balancing of the fluctuating input torques caused by inertia forces in the crank-	
Thermal transpiration for the develop- ment of a new type of gas pump, A		Ultrasonic nondestructive measurement of		and-rocker mechanics, On theI	97
study ofP	207	irraditiation damage in steelB	593	Bending-bending mode of a rotating tap-	-
HOPKINS, J. M.	-	HUNTING		ered-twisted turbomachine blade includ-	
Influence of water on fatigue-failure loca-		Hunting of railway vehicle on test stand,		tion	1017
tion and surface alteration during roll-	1447	Problems onI 879; (D) I 886; (AC) I	889	Inertia effects in MHD hydrostatic thrust	1011
ing-contact lubrication (D)L.	581	HUTCHINSON, J. W.		bearingL	589
HOPKINS, V. Film thickness and normal load in the fric-		Elastic postbuckling behavior of stiffened and barreled cylindrical shellsAM	784	Influences of large amplitudes, transverse	
tion of thin films, A theory for the ef-		Optimal arches, OnAM		shear deformation, and rotatory inertia on lateral vibrations of transversely	
fects of (D)L	556	HWANG, CHINTSUN		isotropic platesAM	254
Molybdenum disulfide lubricants in radi-		Vibration of ring-stiffened and mass-at-		Natural frequencies for a system of equal	
ation and vacuum environments, A test	204	tached hemispherical shellsAM	318	inertian and equal spring stiffnesses, On evaluation of	646
	396	HWANG, GUANG-JYH		Inpusion	940
Hoppens Entrainment patterns of screw hopper dis-		Combined free and forced laminar convec-		Tools and engineering materials with hard.	
chargersI	295	tion in horizontal rectangular channels, Numerical solution forHT	59	wear-resistant infusionsI	549
Horlock, J. H.		Hydraulics		INGARD, K. UNO (co-author)	
Compressors or pump stage for minimum		Pressure transients in hydraulic pipelines	4		382
fluctuating lift, The quasi-steady design		Reduction of noise and vibrations in a hy-	460	INPUTS, RANDOM	
of aP 31; (AC) P	133	draulic turbineB	722	Optimizing linear vibration isolator sys-	
Horn, G.		Hydrodynamics	1000	tems subject to random input, A new	1001
Advancing boiler steam conditionsP 121; (AC) P	128	High-speed hydrodynamics, Problems of!	1	Inspection	1000
Horron, W. F.		Hydrodynamic journal bearings, Optimum	290	Track quality index, Development and use	
Sensitivity in multivariable control sys-		design ofL 516; (D) (AC) L Hypropoles	522	of a 861; (D) I 867; (AC) I	868
tems B 246; (AC) B	250	Cavitation tests on hydrofoils designed for		INSTABILITY	
HOUGH, W. W.		accelerating flow cascade:		General instability of inclined-stiffened	
Solar array performance as a function of		Report 4 — Three profiles designed for		cylinders under bendingAM Instability of mechanical system induced	403
orbital parameters and spacecraft at- titude	13	high head Kaplan turbineB 423; (D) (AC) B	432	by an impinging fluid jetAM	693
		, (, -			

INSTABILITY (Continued)		Failures of reinforced concrete grain silos	476	JONES, R. E.	
Instability of a thick nonhomogeneous elastic layer under high initial stress		(D) Plastic storage tanks, Analysis and design		Approximate solutions in linear, coupled thermoelasticity (D)	373
AM	639	of (D)I	404	Jong, I. C.	
Thermal instability in fluid layers in the		JENKINS, C. W.		Circulatory system with bilinear hysteresis	
presence of horizontal and vertical tem- perature gradients		Impingement cooling of concave surfaces with lines of circular air jetsP 149;		damping, On stability of aAM 76; (AC) AM	906
(D) (AC) AM	906	(AC) P	158	Jonsson, V. K.	
Vibration and dynamic instability of a		JENKINS, E. M., JR.		Resistances to heat and momentum trans-	
field	92	Gross motion attributes of certain spatial	83	fer in the viscous sublayer at rough	400
INSTRUMENTS AND APPARATUS		mechanismsI JETS	60	walls, Some correlation forHT	488
Calorimeter apparatus to measure the en-		Effects of sound on jets and flueric de-		JOUBERT, P. N. Drag and heat transfer from a circular	
thalpy difference of heavy water, AHT	235	vices, A discussion of theI	1161	cylinder normal to an airstream, The in-	-
Gage length errors in plastic-strain wave measurement	870	Fluid-jet amplifier with flat saturation	734	fluence of vortex generators on theHT	91
Hot-wire anemometer calibration for meas-	0.0	characteristics, A	104	JOVANE, F.	
urements at very low velocityHT 241;	200	with lines of circular air jetsP 149;	Land	Eutectic alloy of Pb and Sn, Some extru- sion studies of theI	680
(D) HT Interferometric technique for measuring	588	(D) P 155; (AC) P	158	Ju, F. D.	
binary diffusion coefficients, AnHT		Instability of a mechanical system in- duced by an impinging fluid jetAM	693	Moiré method for measuring large plane	
259; (D) HT 265; (AC) HT	266	Two-dimensional turbulent wall jet in a	-	deformations, The: general theory and	
Thermostat for precise temperature control from -190 to +650 CB	168	moving stream, Some properties of the	910	application to homogeneous deformation	385
Unsteady pressure differential in a cap-	200	(D) (AC)AM Two-phase turbulent jet prediction analy-	910	Judy, R. W., Jr.	
illary-tube gas viscosimeterAM	171	sisHT	169	Stress-corrosion-cracking characterization	
Insulation		Water jet pumps, Optimum design of	140	procedures and interpretations to failure	614
Explicit heat conduction equations at thermally insulated surfaceHT	446	P 62; (D) P 137; (AC) P JOHANSEN, K. F.	140	— safe use of titanium alloysB JUNCTIONS	014
Radiation transfer from a metal to a finely	**0	Motion of a spherical pendulum, A simple		Basic equation of junction growth, on	
divided particulate mediumHT	154	description of theAM	408	theAM	132
INTEGRAL METHODS		JOHANSON, J. R.		Junctures	
Integral methods for predicting shear layer behavior, On	679	Bin loads, On the theory ofI		Transient shear waves in two joined elas- tic quarter spacesAM	491
INTERFACES	910	Flow patterns of granular materials in flat-bottom bins (D)I		JUNGER, M. C.	401
Interface shear stress in annular flow con-		Flowability of bins, Effect of initial pres-	410	High-frequency response of an elastic	
densation, On theHT	450	sures onI		spherical shellAM	859
INTERFEROMETERS		Gravity flows of ideally plastic materials through slots (D)I			
Interferometric technique for measuring binary diffusion coefficients, AnHT		Pressures on silo walls (D)I			
259; (D) HT 265; (AC) HT	266	JOHNSON, B. L.		•	
IRWIN, G. R.		Actual popping pressure of a relief valve		A second	
Dynamic fracture testing, Basic concepts		with a real helical spring under dynamic load			
forB	519	Transfer functions for helical springsI		KACKER, S. C.	
Electrohydraulic vibration isolation sys-		Johnson, C. D.		Two-dimensional turbulent wall jet in a	
tems, Theoretical and experimental in-		Linear dynamic systems, Optimization of		moving stream, Some properties of the	
vestigation ofI	981	a certain quality of complete control-		(AC)AM	910
Optimization techniques for shock and vi- bration isolation, Comparative study		lability and observability forB 228; (AC) B	238	KAELIN, C. R.	
ofI	1128	JOHNSON, G. DUGAN		Track quality index, Development and use of a 861; (AC) I	868
Optimizing linear vibration isolator sys-		Gibson method of water measurement, Ve-		KAGIWADA, H. H.	
tems subject to random input, A new criterion for	1005	locity distribution and its effect on the		Invariant imbedding and sequential inter-	
ISOTROPISM	1000	accuracy of theB 434; (AC) B JOHNSON, R. C.	440	polating filters for nonlinear processes	200
Overall deformation of a homogeneous		Venturi meter with separable diffuserB	116	KAISER, H. B 195; (AC) B	200
isotropic elastic porous medium, On,	000	JOHNSON, T. R.		Flow of a melted plastic through a screw	
ISRAEL, S.	333	Drag and heat transfer from a circular		extruder, Prediction of B 479; (AC) B	490
Critical heat flux measurements in a 16-		cylinder normal to an airstream, The in- fluence of vortex generators on theHT		KALABA, R. E.	
rod simulation of a BWR fuel as-		Johnson, W.		Invariant imbedding and sequential inter- polating filters for nonlinear processes	
semblyHT 355; (AC) HT	362	Elastic-plastic stress distribution in a com-		В 195; (АС) В	200
IWAN, W. D. Equivalent nonlinear system approach to		pressed ring (D)B	562	KALITA, R. E.	
dissipative dynamical systems, Applica-		JOHNSTON, JAMES P. Diffuser performance, Some effects of in-		Dynamic measurement of absolute track	
tion of anAM		let blockage and aspect ratio onB		propertiesI	855
		Effects of nonuniform inlet velocity pro-		KALPAKJIAN, S. Barreling as an example of free deforma-	
		files on flow regimes and performance		tion in plastic workings, A study of	
		in two-dimensional diffusersB 462; (AC) B	474	743; (AC) I	
		Straight channel diffuser performance at		KAMAL, M. M.	
******** * *		high inlet Mach numbers (D)B	413	High pressure clearance seal, A (AC)L	215
JACKMAN, L. A.		JOINTS Lubrication in hismachanical joints The		KAMIYAMA, S.	
Very-short-time, very-high-temperature creep rupture of type 347 stainless steel		Lubrication in biomechanical joints, The role ofL 320; (D) (AC) L	327	Inertia effects in MHD hydrostatic thrust bearingL	
and correlation of dataB		Lubrication of animal jointsL 329;		Magnetohydrodynamic journal bearing	
JACKSON, J. W.		(D) (AC) L	340	(report 1)L	
Residual stresses in autofrettaged cylin-		Jones, A. B.		KANE, T. R.	4
ders, Investigation of the relaxation of		Contact conformity effects on spinning torque and friction (D)L		Motion of a spherical pendulum, A simple	
Jacobs, J. D.	63	Jones, D. I. G.		description of theAM	408
Temperatures associated with bubbles in		Resonant beam tuned damping device, A		Kantola, R. A. Response of a fluidic air gauge (D)B	478
subcooled pool boiling, Measurement		P 143; (AC) P		Karnes, C. H.	4.0
ofHT	123	(reviewer) "Vibration and Shock in Damped Mechanical Systems" (BR)		Axisymmetric elastic-plastic wave propa-	
JAFFRIN, M. Y.	950	Damped Mechanical Systems (BK)		gation in 6061-T6 aluminum bars of	10
Peristaltic transport (D)AM	379	JONES, JOHN PAUL		finite lengthAM	
JAGGER, E. T.	010	Pulse propagation in a poroelastic solid	1	KARNOPP, DEAN	
Positive action seals in Europe (AC)L	216	AM		Complete response of distributed systems	
JAHN, ROBERT G. (author) "Physics of Electric Propulsion" (BR)		Jones, N.		controlled by a finite number of linear feedback loops	
Physics of Electric Propulsion (BR)		Elastic behavior of two normally intersect		Optimization techniques for shock and vi-	
Jakubowski, M.		ing cylindrical shellsl	963	bration isolation, Comparative study	1100
Axial impact of short cylindrical bars AM	809	Jones, O. E. Longitudinal wave propagation in a cir-		Optimizing linear vibration isolator sys-	
JENIKE, A. W.		cular bar loaded suddenly by a radially	,	tems subject to random input, A new	,
Bin loads, On the theory of	339	distributed end stressAM	470	criterion for	1005

KATO, S.		General quaternion-operator method of		troconducting gases, Some characteris-	
Prevention of chatter vibration in boring operations, Some considerations on		spatial kinematic synthesis, Principles of a (D) (AC)AM	378	KOTECKI, D. J.	199
	730	Gross motion attributes of certain spatial		Thermal transients in plane walls, cylin-	
KAUFMAN, R. E. Bicycloidal crank—a new four-link mech-		mechanisms	83	ders, and spheres, Effect of container capacitance on	67
anism	91	stretch-rotation tensor, On a general method of I 115; (D) I 121; (AC) I	122	Koump, V.	
Spatial kinematic synthesis by means of a stretch-rotation tensor, On a general		Spatial mechanisms with several degrees	102	Thermal stresses during solidification on	
method of (D)I	121	of mobility by means of transmission functions, A kinematic investigation		basis of elastic modelAM	763
KAYS, W. M. Heat transfer to a fluid flowing inside a		ofI	225	KOZIREV, S. P. Cumulative collapse of cavitation cavities,	
pipe rotating about its longitudinal		Spatial motions I — point paths of mechanisms with four or fewer linksI 103;		On (AC)	857
KECC, R. L.	135	(D) (AC) I	113	Kozlov, V. N.	
Low-speed chatter effects, An explanation		Kirk, R. G.		Transient temperature and thermal stresses in skin of hypersonic vehicle	
of1	951	Turbomotor in instability: effect of initial transients on plane motion (D)L.	630	with variable boundary conditions (D)	
KELLER, R. B. Forced and self-excited oscillations in pro-		Kirk, W. B.	000	HT.	464
pellant linesB	671	Convective heat transfer in a gas-fired pulsating combustor (D)P	198	KRALL, A. M. Second order linear periodic system, The	
KELLEY, B. W.		Kirschler, L. H.	100	stability of a (D)B	210
Contact conformity effects on spinning torque and friction (D)L	585	Mechanical strength of austenitic steel in		Krasnoff, E.	
Pitting of steel under varying speeds and		1200 F sodium, air, and helium, A limited comparison of the	785	Stream deflection produced by a cascade of jet flap airfoils	553
combined stresses (D)L KELLY, J. M.	292	Kiss, I. S.	100	KRAUSE, H. H.	
Determination of stress, strain, strain-rate		Skew four-bar mechanisms, Type determi-	004	External corrosion reactions on surfaces,	
relations from dynamic beam tests, On	eno	nation ofI 220; (AC) I KITCHING, R.	224	Radioactive sulfur oxide studies ofP 216; (AC) P	222
KELNHOFER, W. J.	632	In-plane bending of curved circular tubes		KRAUSE, L. N.	
Wall temperature and Prandtl number ef-		KLAUS, E. E.	521	Venturi meter with separable diffuserB	116
fects on turbulent boundary layer thick- nesses and shape factors for subsonic		Viscosity-pressure characteristics of liq-		Kreisle, L. F.	
compressible gas flow over a flat plate		uids, Measurement and prediction of	450	Stress-concentration factors in shouldered shafts subjected to combinations of flex-	
KENNEDY, L. W.	281	L 451; (AC) L KLINE, S. J.	458	ure and torsion (AC)I	289
Longitudinal wave propagation in a cir-		Analyzing the turbulent boundary layer		Kristoffy, Ivan	
cular bar loaded suddenly by a radially	-	with arbitrary pressure gradient, A new	977	Metal forming with vibrated toolsI	1168
distributed end stressAM	470	integral method for (D)B Straight channel diffuser performance at	377	KŘÍŽEK, F. Impingement cooling of concave surfaces	
KENNER, V. H. Longitudinal impact on a hollow coneAM	445	high inlet Mach numbers (D)B	413	with lines of circular air jets (D)P	156
KENNY, D. P.	****	Kneisel, O.		Kronenberg, M.	
Diffuser for high-performance centrifugal		Effects of orifice plate eccentricity on flow coefficients, Experimental study of the		Computerized determination and analysis of cost and production rates for ma-	
compressors, A novel low-costP 37;	40	B 121; (AC) B	562	chining operations:	
(AC) P Kentfield, J. A. C.	40	KNOEDLER, E. L.		Part 2 - Milling, drilling, reaming, and	-
Pressure-exchanger dividers and equal-		Hydrogen damage in carbon steel, Some		tappingI	585
izers, The performance ofB 361;	0.00	factors controllingP	72	KRUPKA, R. M. Bending-bending mode of a rotating tap-	
Kenyana I T In	369	KOBAYASHI, A. S. Crack-propagation rate in 7075-T6 plates		ered-twisted turbomachine blade includ-	
KEPHART, J. T., JR. One-way air chambers for pumping plants		under cyclic tensile and transverse shear		ing rotatory inertia and shear deforma-	1017
B 383; (AC) B	386	loadingsB	764		
KERR, A. D.		KOBAYASHI, S. Some steady-state plastic deformation		Ku, Joseph Completely force balancing simple linkages,	
Linearization of the prebuckling state and its effect on the determined instability		processes, A new apper-bound method		A new method for (D)I	26
loads, TheAM	775	for analysis of 731; (AC) I	742	Kubo, R. (co-author)	
KESSEL, P. G.		KOENIG, H. A. Finite deflections of an elastic circular		"Thermodynamics" (BR)AM	382
Response of a beam subjected to a cyclic moving load, On theI	995	plate with a central holeAM	285	Kugath, D. A.	
KESTIN, J. (reviewer)	320	Plane strain in plasticity, The application		Effect of tolerance and clearance in link- age design (D)	202
"The Wind and Beyond" (BR)AM		of an orthagonal net of circles to the	736	KULKARNI, K. M.	
"Thermodynamics" (BR)AM	382	Kohr, R. H.		Barreling as an example of free deforma-	
Key, P. L.		Piecewise continuous expansions in the		tion in plastic workings, A study of	754
Strain-energy release rate, The effect of local yielding on the	852	identification of nonlinear systems, The use of	179		104
KEYES, E. J.		KOISTINEN, D. P.		KUMAR, K. S. P. Linear dynamical systems, Optimization of	
Profile measurement of coated abrasive		Residual stress induced during rolling, A	010	a certain quality of complete control-	
surfacesI 781; (AC) I	789	study of (D)L	318	lability and observability for (D)B	238
KHAN, M. A. A. Effect of a suction upon laminar flow		KOMENDA, R. A. Bent submarine cables, Axial stresses in		Kunz, H. R.	
along a vertical wallAM	877	armor wires of (D)I	691	Film condensation, film evaporation, and single-phase heat transfer for liquid	
KHANDHAR, M. K.		KONOPLIV, N.		Prandtl numbers from 10° to 10°, An	440
Impingement cooling of concave surfaces with lines of circular air jets (D)P	156	Transient heat and mass transfer to a translating droplet (D)HT	280	analysis ofHT	413
KHATRI, H. C.		KOOPMANN, G. H.	200	KURITA, H. Prevention of chatter vibration in boring	
Identification of distributed parameter		Unsteady flow and wake near an oscillat-		operations, Some considerations on	
systems using finite differencesB 239; (AC) B	945	ing cylinder, The (D)B 503,	859	I 717; (AC) I	730
Kidd, G. J., Jr.	240	KOPLIK, B. Diakoptics in the determination of turbine		KUTTA CONDITION	
Confined vortex flow, A theoretical and		bucket frequencies by the use of pertur-		Vorticity and Kutta condition for unsteady multienergy flowsAM	608
experimental study ofAM	687	bations, An application ofI	1029	THE CASE OF THE PARTY OF THE PA	
Potential vortex flow adjacent to a sta- tionary surface (AC)AM	375	Nonlinear vibrations of shallow spherical shells	451	KUZAY, T. M. Radiation incident on a temperature sen-	
KILMER, W. K.		Korger, M.		sor situated in a tube having noniso-	prove
Some vertebrate command and control		Impingement cooling of concave surfaces	***	thermal wallsHT	285
principles, An embodiment ofB	295	with lines of circular air jets (D)P	156	KUZMA, DENNIS C.	
KIMBRELL, J. T. Generalized Cardan motion (D)I	141	Korites, B. J. Influence of dissipative heating on the loss		Theory of the mechanism of sealing with application to face sealsL	704
KINEMATICS	-	factor of a viscoelastically damped beam,		Kwok, C.	
Finitely and infinitesimally separated posi-		The	975	Incompressible flow in short vortex cham-	
tion problems of kinematic synthesis, A unified theory for the	203	Korovchinski, M. V. Full journal bearing lubricated with elec-		bers, An analytical model of the (D)	272

		LEE, E. H. Elastic filament reinforcement of a visco-		Real fluid flow over yawed circular cylin-	
		elastic cylinder, OnAM	573	ders, On (AC)B	132
LAI, J. S. Y. Behavior of nonlinear viscoelastic mate-		Elastic-plastic deformation at finite strains	1	LIFT Compressor or pump stage for minimum	
rial under simultaneous stress relaxation		Wave-front analysis in composite mate-		fluctuating lift. The quasi-steady design	100
in tension and creep in torsionAM	22	LEE, G. K.	497	of a	133
LAKSHMINARAYANA, B. Compressor or pump stage for minimum		Convective heat transfer in a gas-fired		Limit analysis of short cylindrical shells,	
fluctuating lift, The quasi-steady de-		Lancard Co.	136	An experimental verification ofAM LIMIT CYCLES	362
sign of a (D)P	132	LEE, HAN-CHOW Stresses in largely deflected cantilever		Limit cycles and stability of a non-linear	
Unsteady free-convection laminar flow		beams subjected to gravityAM	323	two-degree-of-freedom autonomous vi- bratory system	959
past a porous wall with time-dependent suction	327	LEE, R. A. Heat transfer in rough tubes with tape-		Lin, S. R.	-
LAMB, J. P.		generated swirl flowHT	443	Effect of axial compression on low-cycle	780
Improved linearized velocity profiles for turbulent free shear layers	657	LEE, RL. General instability of inclined-stiffened		fatigue of metals in tensionB	100
Turbulent boundary layer, with emphasis	001	cylinders under bendingAM	403	Effect of axial compression on low-cycle	
on interfacial conditions, A two-region model of the	664	LEGENDRE PCLYNOMIALS Higher-order theories for structural analy-		fatigue of metals in tensionB (author) "Theory of Inelastic Structures"	780
LAMBERT, E. R.	004	sis using Legendre polynomial expan-		(BR)AM	383
Some steady-state plastic deformation processes, A new upper-bound method		sionsAM	757	LIN, Y. K. Dynamics of beam-type periodic structures	
for analysis of	742	LEI, M. M. Buckling of composite and homogeneous			1133
LANCE, R. H.		isotropic cylindrical shells under axial	791	LINDORFF, D. P.	
Bounding principle in the theory of work- hardening plasticity, A	228	and radial loadingAM LEIDENFROST, W.	101	Sensitivity in multivariable control sys- tems (D)B	249
Ellipsoidal heads, An evaluation of ASME		Thermostat for precise temperature con-	100	LINEARIZATION	
LANDIS, FRED	636	trol from -190 to +650 CB LEISSA, A. W.	168	Approximate equivalent linearization tech- nique for nonlinear oscillations, AnAM	358
Boundary-layer velocity distribution in tur-		Heterogeneous anisotropic plates, Analy-		Linearization of the prebuckling state and	
bulent swirling pipe flow, TheB Free convection through vertical plane lay-	728	sis ofAM	261	its effect on the determined instability loads, TheAM	775
ers - moderate and high Prandtl num-		Effects of some gaseous environments on		LINEHAN, J. H.	
ber fluids (D)HT	401	the creep of a stainless steel, TheB	575	Interface shear stress in annular flow con-	450
Heat transfer in turbulent pipe flow with		LEMON, J. R. Application of controlled mechanical im-		densation, On theHT Ling, Chih-Bing	-
optically thin radiation	330	pedance for reducing machine tool vibra-	1057	Stress-concentration factor in a notched	054
Corrosion-fatigue crack propagation stud-		tionsI	1007	strip, On (AC)AM Ling, F. F.	604
ies of some new high-strength struc- tural steelsB	570	Spherical shell acrylic windows under		Concentrated contacts for minimum micro-	
Dynamic tear test, Mechanical aspects of		short-term pressure loading, Critical pressure of 573; (D) I	584	slips, Geometric optimization ofL Temperature transients at sliding inter-	
theB	535	LEONDES, C. T.	-	face, OnL	
Complex harmonic analysis of plane me-		Optimal control problem with unrestricted final time, On theB	155	LINKAGES. See also MECHANISMS Balancing of the fluctuating input torques	
chanisms: programming on digital com- puter and experimental examplesI	27	Sensitivity in multivariable control sys-		caused by inertia forces in the crank-	
LARSEN, P. S.		tems B 246; (AC) B LEOPOLD, P. M.	250	and-rocker mechanisms, On theI Completely force balancing simple link-	
Void fractions in subcooled flow boiling	471	Elastic-plastic stress distribution in a com-		ages, A new method forI 21;	
LARSON, M. B.	471	pressed ring (AC)B	563	(D) (AC) I Duality in the existence of R-R links for	
Variables affecting the dynamic response of thermocouples attached to thin-		LETCHER, J. S., JR. Heat conduction in thin surface layers, An		three positions, On the	
skinned modelsHT	166	improved theory forHT	585	sition synthesis of binary links and com-	
LAUNDER, B. E.		LEUNG, P. Optimization of heater design conditions in		bined link chains, Design equations for	
Accelerating turbulent boundary layers, An aspect of heat transfer in	229	power plant cycles (D)P	170	4-bar linkages adjustable for several ap-	
Prandtl-Kolmogorov model of turbulence		LEVEILLE, ALAN R. Contact conformity effects on spinning		proximate straight-line motions of a coupler point, Synthesis of	
with the inclusion of second-order terms, The	855	torque and friction (D)L	585	(D) (AC) I	178
LAVAN, ZALMAN		Levy, A. External corrosion reactions on surfaces,		Inverted slider crank, coupled in tandem to another four-bar, to generate a constant	
Flow in a two-dimensional channel with a rectangular cavityAM	897	Radioactive sulfur oxide studies of		Optimization of four-bar linkages satisfy-	
Incompressible turbulent swirling flow in		LEVY. ALVIN P 216; (AC) P	222	ing four generalized coplanar positions	
stationary ducts, Analytical investiga- tions ofAM	151	Free vibrations of reinforced elastic		Skew four-bar mechanisms, Type determi-	75
LAW, E. H.		LEVY, E. K.	835	nation ofI 220; (D) I 223; (AC) I	
Lateral dynamics of railway vehicles, General aspects of the (D)	one	Heat pipes operating at low vapor pres-		Spatial five-link mechanisms using (3 x 3) matrices with dual-number elements	
Lawn, C. J.	910	sures, Theoretical investigation of (AC)		Displacement analysis ofI 152; (D) 1	1
Turbulent heat transfer at low Reynolds		LEVY, M. J.		156, 921; (AC) I 157 Spatial linkages, Dynamic behavior of:	, 923
numbersHT	532	Pressure attenuation in long rarefaction wave tubes		Part 1 - Exact equations of motion	
Herringbone-grooved gas-lubricated jour-		LEWELLEN, W. S.		Part 2 — Small oscillations about equi-	
nal bearing, Experimental stability	**	Potential vortex flow adjacent to a station- ary surface (D)AM		Symmetric overstrained linkagesI 158 (D) I 162; (AC)	;
studies of the (D)L	57	Lewis, J. H.	0.4	Synthesizing the four-bar crank-rocker	
Leakage in mechanical face seals, Meas-		Molybdenum disulfide lubricants in radi- ation and vacuum environments, A test		mechanism, An analytical method for	
Load support and leakage from microas-		ofL 390; (AC) L		Linn, F. C.	
perity-lubricated face sealsL		LICHT, L.		Lubrication of animal jointsL 329 (AC) 1	
Leckie, F. A.		Disturbance along a foil, On the velocity of propagation of a		Lubrication in biomechanical joints, The	•
Shakedown as a guide to the design of pressure vessels		High-speed rotors supported by air-lubri- cated foil bearings, An experimental		role of (D)l	L 327
LeCroy, R. C.		study of:		Vehicle vibration analysis using frequency	y
Temperature development in the entrance region of an MHD channel, The solution		Part 1 — Rotat on in pressurized and self-acting foil bearingsL		domain techniques	
of, by the B. G. Galerkin methodHT		Part 2 - Response to impact and to		LIPPERT, T. E. Temperature profiles measured in th	
LEE, D. G.		periodic excitationL	494	thermal sublayer of water, Freon-113 and	d
Effect of liquid solidification in a parallel plate channel upon laminar-flow heat		Lick, D. W. Confined vortex flow, A theoretical and ex-		methyl alcohol during pool boiling, A study of (AC)	
transfer and pressure dropHT	583	perimental study ofAM		LIQUID METALS. See also METALS	

Liquids		Electrodynamic oscillating compressors		Concentrated contacts for minimum micro-	
"Dynamics of Elastic Containers Partially	·	Part 1 — Design based on linearized	AFA	slips, Geometric optimization ofL	360
Filled with Liquid" (BR)AM Earth-storable liquid bipropellants with	655	Part 2 — Evaluation of specific designs	656	(D)L 211; (AC) L	212
gaseous reactants, Simulation ofAM	347	for gas loadsB	664	Contact conformity effect on spinning	11
Effect of liquid solidification in a parallel		Exact transient response of an elastic half		torque and frictionL 308;	-
plate channel upon laminar-flow heat	***	space loaded over a rectangular region	516	(D) L 584; (AC) L Continuum approach to the solution of the	586
transfer and pressure dropHT Free-convection heat transfer through an	583	of its surfaceAM Fatigue crack	910	contact of rotating circular surfaces,	
enclosed vertical liquid layer with a ver-		Part 1 - Discrete dislocation model of	100	A discreteL	387
tical baffle, Exploratory studies ofHT	163	a fatigue crack under loadingAM	723	Cylindrical roller bearings having crowned	
Liquid-vapor action in a vessel during blowdownP 53; (D) P 133; (AC) P		Part 2 — Mean stress effect on the shear fatigue crack model	731	rolling members, The effect of misalign- ment on the fatigue life ofL 294;	
Shock wave velocity and impact pressure	134	Foulkes mechanism in portal frame de-	101	(D) L 576; (AC) L	580
in high-speed liquid-solid impact, On the		sign for alternative loads, OnAM	73	Deep groove rolling contact parameter,	
(D) (AC)B	134	Increase of bearing loads due to large nor-		A	276
Transient freezing of liquids in forced		mal stress differences in viscoelastic	294	Dynamically loade journal bearings;	
flow inside circular tubesHT 385; (D) (AC) HT	389	lubricants	634	maximum film pressureL 534; (D) L 538; (AC) L	541
Unsteady flow of a viscoelastic liquid un-	369	and its effect on the determined in-		Eccentric face seal with a tangentially	
der heaviside-type applied magnetic		stability loads, TheAM	775	varying film thickness, TheL	748
fieldsAM	637	Load support and leakage from micro-	726	Effects of geometry and inertia on surface face seal performance, The — turbulent	
Viscosity-pressure characteristics of liq- uids, Measurements and prediction of		asperity-lubricated face sealsL Longitudinal wave propagation in a cir-	120	flow (D) (AC)	214
L 451; (D) L 457; (AC) L	458	cular bar loaded suddenly by a radially		Externally pressurized gas bearing tech-	
LISINI, G. G.		distributed end stressAM		nology since 1959, A review of develop-	
Grinding process instabilityI	597	Minimum weight design of disks using a		ments inL Externally pressurized gas bearings, The-	161
LITERATURE		Response of a beam subjected to a cyclic		oretical flow-models forL	181
Lubrication review: a digest of the litera-		moving load, On theI		Externally pressurized gas-lubricated	
Boundary lubricationL	941	Response of a structure moving through a		bearings, Method of theoretical investi-	
Fluid-film lubrication and bearings, com-	241	random load field, On the I 1114;		gation ofL	166
pressibleL	229	(D) I 1117; (AC) I Response of an elastic half space to a de-		Film thickness and normal load in the fric- tion of thin films, A theory for the ef-	
Fluid-film lubrication and bearings, in-		celerating surface point loadAM		fects ofL 551; (D) L 555; (AC) L	556
Friction and wearL		Shakedown as a guide to the design of		Finite-width high-speed self-acting gas-	
Gear lubricationL		pressure vessels		lubricated slider (and partial-are) bear-	48
Lubricants and automotive lubricants	204	(D) 806; (AC) I Sidesway buckling of deep circular arches		ings, Theory for	17
L	244	under a concentrated loadAM		ment and analysis of a — including ef-	
Metalworking lubricantsL	235	Silo loads in measuring models, Investiga-		fects of supported mass motionL	138
Rolling bearingsL Static and dynamic sealsL	200	tion of		Foil bearingsL	37
LITERATURE AVAILABLE	220	Spherical squeeze-film gas bearings, Load		Friction and adhesion in deformation proc- essing, Effect of die surface composi-	
"An Introduction to Structural Optimiza-		Stability of clamped skew plates under		tion onL 351; (D) L 357; (AC) L	359
tion"AM	911	combined loadsAM		Full journal bearing lubricated with elec-	-
"Stresses in Shells"AM	384	Stress and strain redistribution in a		troconducting gases, Some characteris-	
"Theory of Perfectly Plastic Solid"AM "Theory of Thin Shells"AM		notched plate specimen during cyclic		ties of aL	199
"Viscous Drag Reduction"AM	911	Transient excitation of an elastic half		Gas-lubricated hybrid journal bearings, Steady-state and dynamic analyses of	
LITTLE, ROBERT WILLIAM		space by a point load traveling on the		L 171; (D) (AC) L	180
Semi-infinite strip problem with built-in		surfaceAM	505	Gas-lubricated porous bearings, A survey	-77
edgesAM	320	Transverse vibration of a viscoelastic col-		of (D)L 222; (AC) L	224
LITTMANN, W. E.		umn with initial curvature under per- iodic axial load		Gas-lubricated spiral-grooved spool bear-	
Pitting of steel under varying speeds and combined stresses (D)L	292	Traveling loads in a cylindrical bore, Re-		ing for motion in the axial direction,	
Liu, C. K.	202	sponse of an infinite elastic medium	1	Static and dynamic characteristics of the	104
Turbulent natural convection boundary		toAM		Heat transfer between the surfaces as a	104
layers, An experimental study ofHT	517	Unaxial loading in an elastic continuum with a doubly periodic array of mate-		secondary effect in gas lubrication, Note	
Liu, J. Y.		rial discontinuitiesAM		on the influence of theL	194
Lubrication review (digest of 1967 litera-	ore	LOCKWOOD, F. C.		Helium face seal application in a liquid	
ture): Rolling bearingsL	255	Accelerating turbulent boundary layers		exygen pump, AL	668
LLORENS, R. E.		An aspect of heat transfer inHT	229	Herringbone grooved, gas lubricated jour-	
Finite deflections of an elastic circular plate with a central holeAM		Lohse, G. E.		nal bearing, and comparison with experi- ment, An approximate theoretical analy-	
Plane strain in plasticity, The application		Nonmechanical solids flow control device in the waste calcining facility, Experi-		sis of the static and dynamic character-	
of an orthogonal net of circles to the	ALUE .	ence with		istics of theL 25; (D) L 34; (AC) L	35
problem ofAM	736	LOPINA, R. F.		Herringbone-grooved gas-lubricated jour-	
LLOYD, T.		Heat transfer and pressure drop in tape		nal bearing, Experimental stability stud-	
Dynamically loaded journal bearings: Maximum film pressure (D)	E41	generated swirl flow of single-phase		ies of theL 52; (D) L 57; (AC) L	
Lo, C. F.	041	waterHT 434; (AC) H7	442	Hertzian contact and adhesion of clas- tomers	
Unsteady laminar motion of a Newtonian		Loss, F. J.		High pressure clearance seal, A (D) (AC)	102
fluid contained between concentric rotat-		Temperature transition from linear elastic		L	215
ing cylinders (D)AC		to gross strain fracture conditions, Dy- namic tear definition of the		High-speed noncontacting gas seals, Per-	
LOADS AND LOADING		LOVELL, E. G.		formance characteristics of spiral-	
Actual popping pressure of a relief valve		Nonlinear response of a cylindrical shell	11	groove and shrouded Rayleigh step pro-	
with a real helical spring under dynamic		to an impulsive pressureAl		files forL. High-speed rotors supported by air-lubri-	
Bin loads, On the theory of		LOWEN, G. G.		cated foil bearings, An experimental	
Bonded elastic mounts under combined	N.	Completely force balancing simple link		study of	
loading of shear and normal forces		ages, A new method forI 21; (AC)	I 26	Part 1 - Rotation in pressurized and	
Buckling of composite and homogeneous isotropic cylindrical shells under axial		Lu, S. Y.		self-acting foil bearingsL. Part 2 — Response to impact and to	
and radial loadingAM		General instability of inclined-stiffene cylinders under bending		periodic excitationL	
Crack-propagation rate in 7075-T6 plates	k 1	Lubin, Barry T.	- 400	Hydrodynamic journal bearings, Optimum	
under cyclic tensile and transverse shear		Total heat transfer coefficient in stabl		design ofL 516; (D) (AC) L	
Distributed leads on long avlinders. Solu-		film boiling from vertical plate, Analyt		Hydrostatic bearings for cryogenic rocket	
Distributed loads on long cylinders, Solu- tions for		ical derivation forH		engine turbopumpsL	
Dynamic loads caused by vehicle-track in-		LUBRICANTS AND LUBRICATION		Incompressible hybrid journal bearing with	
teraction, A computer study ofl	808	Asymptotic solution for a separating film		cavitation, A numerical solution for the	
Dynamically loaded journal bearings:		Behavior of hydrodynamic, noncontactin		Incompressible lubrication problem, Pinite-	
maximum film pressureL 534; (D) L 538; (AC) I		face seals (D)L 216; (AC)		element solution of the	
Elastic deformation of a circular rod of		Compression of a thin plastic mass be	-	Increase of bearing loads due to large nor-	
finite length for an axially symmetric		tween two elastic cylindersL 342		mal stress differences in viscoelastic	
end face loading, TheAM	241	(D) L 349; (AC)	L 350	lubricantsAM	63

UBRICANTS AND LUBRICATION (Continued)		Spherical squeeze-film hybrid bearing, Dy-		Magnetohydrodynamic journal bearing (re-	120371
Individual asperity-asperity collisions, The		namic behavior of theL	149	port 1)L	380
application of elastohydrodynamic lubri-		Spiral-groove bearings, On the local com-	-	"Magnetohydrodynamics Energy Conver-	655
cation theory toL 464; (D) (AC) L	475	pressibility effect inL	79	sion" (BR)	000
Inertia effects in MHD hydrostatic thrust	***	Spiral-grooved screw seal for turbulent operation, Theoretical analysis ofL	675	trary conductivity for arbitrary Hart-	
Infinitely wide foil bearing, The propaga-	589	Spiral-grooved thrust bearings, Mean free	0.0	man number, OnAM	702
tion of disturbances in theL	120	path effect inL	69	Temperature development in the entrance	
Influence of water on fatigue-failure loca-		Stability characteristics of gyroscopes		region of an MHD channel, The solution	212
tion and surface alteration during roll-		with hydrodynamic-grooved rotor bear-	***	of, by the B. G. Galerkin methodHT Transient heat transfer in MHD plane	-1-
ing-contact lubricationL 301;	***	ingsL "Standard Handbook of Lubrication En-	609	Couette flowHT	184
(D) L 581; (AC) L	583	gineering" (BR)AM 382; L	370	MAHNCKE, H. E.	
Inward pumping in mechanical face seals	426	Step-thrust gas bearing without feed	010	Influence of water on fatigue-failure loca-	
Journal bearings, Design of pivoted-pad	420	grooves for two directions of shaft ro-		tion and surface alteration during roll-	
L 87; (D) (AC) L	103	tation, Investigation of theL 620;		ing-contact lubrication (D)L	582
Leakage in mechanical face seals, Meas-		(D) (AC) L	624	MALANOSKI, S. B.	
urements ofL	687	Temperature transients at sliding inter-	905	Lubrication problems with temperature	
Linearization for numerical solution of the		face, OnL The flow between two parallel circular	397	and elasticity effects, Methods for	
Reynolds' equationL	506	disks, one of which is subject to a nor-		solution of:	
Liquid dynamic seal to vacuum, Develop- ment of a	738	mal sinusoidal oscillationL	126	Application to sector, tilting-pad bear- ings	634
Load support and leakage from microas-	100	Theory of the mechanism of sealing with		Spiral-grooved thrust bearings, Mean free	004
perity-lubricated face sealsL	726	application to face sealsL	704	path effect inL	69
Lubrication in biochemical joints, The role		Thermal effects in face sealsL	434	MALLAIRE, F. R.	
ofL 320; (D) (AC) L	327	Turborotor instability: effect of initial		Wear ring seals for high-speed, high-pres-	
Lubrication of animal jointsL 329;		transients on plane motionL 625;	690	sure turbopumps, Evaluation ofL 438;	
(D) (AC) L	340	(D) L 630; (AC) L Viscosity-pressure characteristics of liq-	632	(AC) L	450
Lubrication problems with temperature and		uids, Measurement and prediction of		MALONEY, R. E.	
elasticity effects, Method for solution of:		L 451; (D) L 457; (AC) L	458	Gas-lubricated porous bearings, A survey	
Application to sector, tilting-pad bear-		Why, what, and how: engine varnishL	406	of (D)L	224
ingsL	634	LUMSDAINE, E.		MALVERN, L. E.	
Lubrication review; a digest of the litera-		Heat transfer for flow in a coneHT	173	Harmonic dispersion analysis of incremen-	
ture for 1967		Lunardini, V. J.		tal waves in uniaxially prestressed plas-	
Boundary lubricationL	241	Radiant heat exchange, A rapid iteration		tic and viscoplastic bars, plates, and un-	£ 59
Fluid-film lubrication and bearings, com-	000	method forHT	581	bounded mediaAM MARAIS, G. VAN R.	1 00
Fluid-film lubrication and bearings, in-		LUNDGREN, T. S.		Stresses in wedges of cohesionless mate-	
compressibleL		Free molecule flow through slit and an-		rials formed by free discharge at the	
Friction and wearL		nular orifices in the presence of partici-		apexI	345
Gear lubricationL		pating bounding wallsAM	715	Marchello, J. M.	
Lubricants and automotive lubricants L		Lundin, C. D.		Film condensation in the presence of a	
Metalworking lubricantsL		Very-short-time, very-high-temperature creep rupture of type 347 stainless steel		noncondensable gasHT	447
Rolling bearingsL		and correlation of dataB	32	MARGOLIS, D. L.	
Static and dynamic sealsL		LUTCHANSKY, M.	02	Small-amplitude frequency behavior of	
Magnetic and electrical fields in gas lubri- cation, On the influence ofL		Bent submarine cables, Axial stresses in		fluid lines with turbulent flowB	678
203; (D) L 208; (AC) L	209	armor wires of I 687; (AC) I	693	MARSCHALL, E.	
Magnetohydrodynamic journal bearing (re-		LYMAN, F. A. (reviewer)		Binary, gravity-flow film condensation	
port 1)L	380	"Physics of Electric Propulsion" (BR)		НТ	205
Melt lubrication of an annular-thrust sur-		AM	655	MARSH, H.	
faceL 374; (D) (AC) L				Self-acting gas journal bearings with non-	
Misaligned, eccentric face seal, TheL. Molybdenum disulfide lubricants in radi-				circular members and additional ele-	
ation and vacuum environments, A test				ments of flexibility, The stability ofL	113
ofL 390; (D) (AC) L				MARTA, H. A.	
Non-Newtonian behavior of polymer		m		Wheel-rail adhesionI	839
blended petroleum oils, The effect of				MARTIN, L. P.	
pressure on theL 459; (D) (AC) L		MACGREGOR, R. K.		Moiré method for measuring large plane	
Operation and failure of mechanical face		Free convection through vertical plane lay-		deformations, The: general theory and	
seals, An investigation of theL Performance characteristics of full finite		ers - moderate and high Prandtl num-		application to homogeneous deformation	
journal bearings, The effects of forced		ber fluidsHT	391	АМ	385
feed lubrication onL		MACHINE TOOLS		Marto, P. J.	
Pitting of steel under varying speeds and		Application of controlled mechanical im-		Pool boiling heat transfer from teflon-	
combined stressesL 282; (D) L 290;		pedance for reducing machine tool vi-	1057	coated stainless steel (D)HT	370
(AC) I	293	Low-speed chatter effects, An explanation	1001	MARUI, E.	
Positive action seals in Europe (D)		ofI	951	Prevention of chatter vibration in boring	
L 215; (AC) I	216	Metal forming with vibrated toolsI		operations, Some considerations on	
Rayleigh step journal bearing	041	Machining			730
Part II — Incompressible fluidI		Biaxial residual surface stresses from		MASS TRANSFER	
Residual stress induced during rolling, A study ofL 314; (D) (AC) L 318		grinding and finish machining 304 stain-		Extension of the Lévêque solution HT	
study of 314; (D) (AC) L 316	655	less steel determined by a new dissection		Mass-transfer model in subcooled nucleate	
Reversed flow in face seals		techniqueB		boiling	
Rolling friction:	, 421	Computerized determination and analysis of cost and production rates for ma-		Transient heat and mass transfer to a	
I—Historical introduction	260	chining operations:		translating dropletHT 273;	
II-Cast-iron car wheels	264	Part 2 - Milling, drilling, reaming and		(D) HT 280; (AC) HT	281
III-Review of later investigations!		tappingI	585	MASSEY, B. S.	
Salt effects in mucin lubrication	371	One-dimensional equilibrium cutting gap		Effects of curvature on laminar boundary	7
Self-energized hydrostatic shaft seals, Ar		in electrochemical machining, Prediction		layers in sink-type flows (D)B	358
analysis of		of the	765	MASSIER, P. F.	
Self-acting gas journal bearings with non		MacLaine-Cross, I. L.		Heat transfer and laminar boundary-layer	r
circular members and additional ele	-	Calculating heat transfer and pressure drop in ducts with laminar flow, An ap-		distributions in an internal subsonic gas	
ments of flexibility, The stability of!		proximate method forHT		stream at temperatures up to 13,900 deg	
Self-acting gas lubricated bearings, A re		MAGNETICS		I aminer transition and turbulent bound	83
view of the state-of-the art for the de		Transport processes in magnetosolidme-		Laminar, transition, and turbulent bound- ary-layer heat-transfer measurements	
sign of		chanics-adiabatic conditionsAM		with wall cooling in turbulent airflow	
Slider bearings at high bearing numbers		Unsteady flow of a viscoelastic liquid un-		through a tubeHT	
Higher order approximations in the asymptotic solution of the Reynold		der heaviside-type applied magnetic		MASSOUD, M. F.	100
equation forL 45; (D)		Vibration and dynamic instability of a		Oscillating conveyers, On the design ofl	353
Sliding damage on the (001) surface of		beam-plate in a transverse magnetic		Materials	
copper single crystal, Anisotropy o		fieldAM		"Advances in Materials Research," Vol. 3	3
***************************************	L 652	MAGNETOHYDRODYNAMICS		(BR)AM	
Spherical squeeze-film gas bearings, Loa	d	Inertia effects in MHD hydrostatic thrust		Radiative transfer characteristics of mate-	
support of	L 132	bearingL	589	rialsRI	1

MATERIALS HANDLING		MAYER, ENDRE A.		Moire method for measuring large plane deformations, The: general theory and	
Adhesion and agglomeration of solids dur-		Incompressible flow in short vortex cham-		application to homogeneous deforma-	
ing storage, flow, and handling — a surveyI 435; (D) L	448	bers, An analytical model for the (D)	273	tionAM	385
Arches in bins, Theory of the formation	440	Mannan P	210	MECHANICS. See also KINEMATICS	
of	434	MAZELSKY, B. Effect of axial compression on low-cycle		"An Introduction to Structural Optimiza-	
	339	fatique of metals in tensionB	780	tion" (Literature available)AM	911
Critical porosity of free flowing solids,		McAdams, H. T.		Complex harmonic analysis of plane	
The 1 478; (D) (AC) I	488	Profile measurement of coated abrasive		mechanisms: programming on digital	
Entrainment patterns of screw hopper dis- chargers	295	surfaces (D)I	787	computers and experimental examples	27
Failures of reinforced concrete grain silos	200	McCabe, J. T.		Forced vibrations of a single-degree-of-	
I 460; (D) (AC) I	476	Finite-width high-speed self-acting gas-		freedom system with Coulomb bearing	
Flow of bulk solids, Limit plasticity ap-		lubricated slider (and partial-arc) bear-	48	frictionAM	871
	357	ings, Theory forL	17	Stability of Hill's equation with four in-	
Flow of dry bulk solids on bin walls		Slider bearings at high bearing numbers, Higher order approximations in the		dependent parameters, On theAM	885
	492	asymptotic solution of the Reynolds	6	MECHANISMS, See also LINKAGES	
Flow patterns of granular materials in flat-bottom bins ——I 406; (D) (AC) I	413	equation forL 45; (D) L	51	Acceleration axes and acceleration distri-	
Flowability of bins, Effect of initial pres-	410	McCann, D. R.		bution in spatial motion 147;	
	395	Aluminum wire by cold hydrostatic extru-		(D) I 150; (AC) I	151
Granular solid discharged from a bin, Air		sionB	822	Bicycloidal crank — a new four-link	01
pressure in the bulk ofI	382	McCulloch, W. S.		mechanismI	91
Gravity flows of ideally plastic materials		Complex living systems, The organizing		mester points for five positions of a	
through slotsI 414; (D) (AC) I	421	principle ofB	290	moving planeI	66
Movements of fuel elements in the core of a pebble bed reactor, Investigations on		Some vertebrate command and control principles, An embodiment ofB	295	Completely force balancing simple link-	
theI	390	McCutchen, C. W.	200	ages, A new method for I 21;	
Noncohesive granular materials through		Salt effects in mucin lubricationL	271	(D) (AC) I	26
discharge chutes, An investigation of the		McDaniel, R. H.	0.1	Coordination of coupler-point positions and	
gravity flow ofI	373	Molybdenum disulfide lubricants in radi-		crank rotations in connection with Rob-	55
Nonmechanical solids flow control device		ation and vacuum environments, A test		erts' configurationI Duality in the existence of R-R links for	40
in the waste calcining facility, Experi-		ofL 390; (AC) L	396	three positions, On theI	129
Oscillating conveyers, On the design ofI	385	McDaniel, T. J.		Dynamic response of rolamite, A theoret-	
Particulate suspensions, Similarity in gas-	353	Dynamics of beam-type periodic structures		ical and experimental investigation of	
borne flowingI	303		1133	the 235; (D) (AC) I	239
Plastic storage tanks, Analysis and design	000	McDonald, W. J.		Effect of tolerance and clearance in link-	
of 1 400; (D) I 404; (AC) I	405	Biaxial residual surface stresses from		age designI 198; (D) (AC) I	202
Pneumatic transport of fine granular		grinding and finish machining 304 stain-		Finitely and infinitesimally separated po-	
materialI	315	less steel determined by a new dissection	**	sition problems of kinematic synthesis, A unified theory for the	203
Powder materials, Some characteristic	000	techniqueB	15	Finitely and infinitesimally separated po-	200
qualities of	323	McEligot, D. M.		sition synthesis of binary links and com-	
(D) I 457; (AC) I	458	Thermal entry for low Reynolds number turbulent flow	87	bined link chains, Design equation for	
Rate of flow of solids, Effect of injected	400	McFadden, Peter W.	0.	theI	209
air on theI	335	Impingment cooling of concave surfaces		Four bar function generators, Automatic	400
Screw conveyers and feeders, A study of		with lines of circular air jets (D)P	155	design of	193
factors affecting the performance of		Porous wall cooling, Comment on an in-		Four-bit binary adding mechanism, Struc- tural synthesis of a	
I 329; (D) I 333; (AC) I	334	vestigation ofHT	284	(D) (AC) I	249
Silo loads in measuring models, Investi-	905	McGraw, J. R., Jr.		Generalized Cardan motion I 135;	
Storage, flow, and handling of solids,	300	Vibratory bending of damped laminated		(D) (AC) I	141
Opening remarks at the ASME sympo-		plates	1081	Gross motion attributes of certain spatial	
sium onI	293	McInerney, F. T.		mechanismsI	83
Stresses in wedges of cohesionless mate-		Wheel-rail adhesion (D)I	846	Inverted slider crank, coupled in tandem to	
rials formed by free discharge at the	2.2	McIvor, I. K.		another four bar, to generate a constant	
apexI	345	Nonlinear response of a cylindrical shell		velocity ratioI Noise of involute helical gearsI	
MATHEMATICS		to an impulsive pressureAM	211	Optimization of four-bar linkages satisfy-	
Continuation of Newton's method through		McKibbin, A. H.		ing four generalized coplanar posi-	
bifurcation points	425	Behavior of hydrodynamic, noncontacting		tionsI	75
Origin of	875	face seals (D)L	211	Roberts' cognates of space four-bar	
Lower bound to the nth eigenvalue of the	0.0	McKillop, A. A. Melt lubrication of an annular-thrust sur-		mechanisms with two general con- straintsI 123; (D) I 127; (AC) I	128
Helmholtz equation over two-dimensional		faceL 374; (AC) L		Rodrigues' formula and the screw matrix	100
regions of arbitrary shapeAM	630		010	I 179; (D) I 184; (AC) I	185
MATSUDAIRA, T.		McLeary, R.		Rolamite-geometry and force analysisI	
Hunting of railway vehicle on test stand,		Interaction of a plane wave with a spher-		186; (D) (AC) I	
Problems on 879; (AC) I	889	ical cavity, TheAM	044	Skew four-bar mechanisms, Type deter-	
Lateral dynamics of railway vehicles, Gen-		McMahon, J. F.		mination ofI 220; (D) I 223; (AC) I	224
eral aspects of theI	877	Compressor or pump stage for minimum fluctuating lift, The quasi-steady design		Spatial five-link mechanisms using (3 x 3) matrices with dual-number elements.	
MATSUI, N.		of aP 31; (AC) P		Displacement analysis of	
Hunting of railway vehicle on test stand,	000	McMillan, O. J.		(D) I 156, 921; (AC) I 157,	923
Problems on 879; (AC) I	889	Straight channel diffuser performance at		Spatial linkages, Dynamic behavior of:	
MATTAVI, J. L.		high inlet Mach numbers (D)B		Part 1-Exact equations of motionI	251
Low-cycle fatique behavior under biaxial	-	McMordie, R. K.		Part 2—Small oscillations about equilib-	070
strain distributionB	23	Monte Carlo method, A modification to the		Spatial mechanisms, Dynamic character-	
MATUSZ, J. M.		- the Exodus method (D)HT		istics of 228; (D) I 233; (AC) I	
Built-in ends of beams and plates, Local		Меаснам, Н. С.		Spatial mechanisms with several degrees	-
flexibility coefficients for theI 607; (AC) I	614	Dynamic loads caused by vehicle-track in-	5(1)	of mobility by means of transmission	
MATZNER. B.	014	teraction, A computer study of		functions, A kinematic investigation	
Critical heat flux measurements in a 16-		MEASUREMENTS		of	
rod simulation of a BWR fuel assembly		Critical heat flux measurements in a 16-rod	100	Spatial motions I-point paths of mecha-	
HT 355; (AC) HT	362	simulation of a BWR fuel assembly	7-1	nisms with four or fewer linksI 108; (D) (AC) I	
MAUNDER, L.		HT 355; (D) HT 361; (AC) HT	362	Spherical oscillating cylinder mechanism,	***
MAUNDER, L. Offset unsymmetric gyroscope with ob-		Dynamic measurement of absolute track		On the	
lique rotor using (3 X 3) matrices with		properties		Symmetric overconstrained linkages	
dual-number elements (D)I	541	Gibson method of water measurement, Velocity distribution and its effect or		158; (D) I 162; (AC) I	
The second secon	1	the accuracy of the		Synthesizing the four-bar crank-rocker	
MAURER, J. R. Mean-square response of simple mechan-		(D) B 438; (AC) E	448	mechanism, An analytical method forI	45
mean-square response of simple mechan- ical systems to nonstationary random ex-		Hot-wire anemometer calibration for meas-		Meck, H. R.	
citationAM	221	urements at very low velocityHT 241	;	Bolt spacing for flange sealing, Analysis	
The state of the s		(D) HT		Circular ring of arbitrary section Three	290
MAXWORTHY, T.		Interferometric technique for measuring		Circular ring of arbitrary section, Three- dimensional deformation and buckling	
Flow around a sphere at high Reynolds numbers, Experiments on the	598	binary diffusion coefficients, AnH7 259; (D) HT 265; (AC) H7		of a	266
		200) (20) 111 200, (200) 111	200		

MEETINGS		placement on rod-average heat transfer	200	MILLER, R. W.	
Storage, flow, and handling of solids,		coefficientsHT Incipient boiling superheat in liquid metals	568	Effects of orifice plate eccentricity on flow	
Opening remarks at the 1968 ASME		(D)HT 198; (AC) HT	200	coefficients, Experimental study of the	562
symposium on (during Materials Han- dling Conference)	293	Low-cycle fatigue behavior under biaxial		MILLERS. H. F.	
MEHTA, H. S.	200	strain distributionB	23	Optimal state variable feedback with	
Some steady-state plastic deformation		Melt lubrication of an annular-thrust sur-		bounded gains B 251; (AC) B	256
processes, A new upper-bound method		faceL 374; (D) (AC) L	379	MILLING	
for analysis of 731; (AC) I	742	Metal ammonia solutions as heat transfer fluids to — 185 deg C, Analysis ofHT	194	Investigation of face-milling tool temper-	
Мента, U. B.		Plane-strain crack toughness values of a	104	atures by simulation techniques 1772;	-
Flow in a two-dimensional channel with a		structural steel, Factors influencing		(D) I 779; (AC) I	780
rectangular cavityAM	897	theB	506	MILLS, A. F.	
MEIER, D. R.		Radial heat-flux density distribution in		Laminar film condensation of a flowing	
Wheel-rail adhesion (D)I	846	fully developed flow of liquid metals in		vapor on a horizontal cylinder at normal	495
MEIROVITCH, L.		circular tubesHT	151	gravityHT	
Transient axially symmetric excitation of a circular elastic rod in plane strain (D)		Radiation transfer from a metal to a finely divided particulate medium	154	Mir, W. A. Cup drawing from an anistropic blankI	766
A circular elastic rod in plane strain (D)	278	Reaction-rate treatment of the extrapola-	20.	MIRA, C. (co-author)	
Mels, K. D.	010	tion methods in creep testing, AB	59	"Optimization in Control Theory and Prac-	
Wheel-rail adhesionI	839	Reaction-rate treatment of the life frac-		tice" (BR)AM	383
MELSA, J. L.		tion hypothesis in creep testing, AB	56	MISALIGNMENT	
Control with a multiplicative mode (D)		Static and dynamic low-temperature K _{1c} behavior of steelsB	512	Cylindrical roller bearings having crowned	
B	205	Stress and strain redistribution in a	012	rolling members, The effect of misalign-	
Optimal state variable feedback with		notched plate specimen during cyclic		ment on the fatigue life ofL 294; (D) L 576; (AC) L	580
bounded gains (D)B	256	loading, Note onB	379	Misaligned, eccentric face seal, TheL	695
MELTING		Stress corrosion testing of 7079-T6 alumi-		Misra, S. K.	-
Heat-conduction problems with melting or		num alloy in seawater using smooth and	ERE	In-process control of residual stress in	
freezingHT 421; (D) (AC) HT	426	Precracked specimensB Very-short-time, very-high-temperature	565	drawn tubingB	810
Melt lubrication of an annular-thrust surfaceL 374; (D) (AC) L	279	creep rupture of type 347 stainless steel		Missiles	
	010	and correlation of dataB	32	Transient temperature and thermal	
MELWORM, R. F.		White etching material outlining shell-		stresses in skin of hypersonic vehicle	
Distributed loads on long cylinders, Solu- tions for	623	type cracks in rail-heads, The cause of		with variable boundary conditions (D)	484
MEMBRANES	0.00	В	549	MITCHELL, J. W.	404
Dynamic membrane stress in a circular		METCALFE, A. G.		Internal flow heat transfer for polynomial	
viscoelastic ringAM	886	Current status of titanium-boron compos-	007	wall temperature distributions, An ex-	
Wave propagation in a semi-infinite elas-	000	ites for gas turbinesP	297	pression forHT	175
tic cylindrical membrane, The application		METHODS, ANALYTICAL		Miura, Hirofumi	
of continued fractions toAM	420	Analyzing the turbulent boundary layer		Stability characteristics of gyroscopes	
MERCURY		with arbitrary pressure gradient, A new integral method for		with hydrodynamic-grooved rotor bear-	200
Heat transfer to mercury flowing in line		(D) B 377; (AC) B	378	ings	609
through an unbaffled rod bundle: ex-		Some steady-state plastic deformation		MIYAMATSU, Y.	
perimental study of the effect of rod dis- placement on rod-average heat transfer		processes, A new upper-bound method		Externally pressurized gas bearings, The- oretical flow-models forL	181
coefficientsHT	568	for analysis ofI 731; (D) I 741; (AC) I	742	Modulation	202
MERTE, H., JR.		METROLOGY		Chatter vibrations, The modulation of	
Incipient and nucleate boiling of liquid hy-		Engineering analysis of experimental data		I 673; (D) I 677; (AC) I	679
drogen 513; (AC) I 519,	920	P 21; (D) P 127; (AC) P	131	MOFFATT, W. C.	
Mesler, R. B.		METZ, H. D.		Shock-ionized argon Alignment charts	
Nucleate pool boiling of sodium, The		Implantable valveless heart assist pump		for the properties ofB	555
mechanism of and stability criterion for		В 284; (АС) В	289	Moffitt, J. V.	
(D)HT	329	METZGER, D. E.		Why, what, and how: engine varnishL	406
METAL CUTTING		Impingement cooling of concave surfaces		MOHLER, R. R.	
Wear on cemented carbide cutting tools,		with lines of circular air jetsP 149;	450	Control with a multiplicative modeB	
A study ofI	652	(AC) P	158	201; (AC) B	205
METAL DRAWING		MEYER ZUR CAPELLEN, W.		Mohsin, M. E.	
Cup drawing from an anisotropic blank		Inverted slider crank, coupled in tandem		Dynamic stiffness of controlled hydrostatic	
766; (D) I	771	to another four bar, to generate a con-	94	bearings, TheL	597
New processes of cup drawing, The me-	204	stant velocity ratioI	37	Moiré Method	
chanics of some		MIDDLEMAN, STANLEY (author)		Moiré method for measuring large plane	
maximum attainable reductions inI		"The Flow of High Polymers" (BR)AM	142	deformations, The: general theory and	
664; (D) I 671; (AC) I	672	MIKESELL, W. R.		application to homogeneous deforma-	907
METAL FORMING		Application of primary sealing criteria to		tionAM	360
Metal forming with vibrated toolsI	1168	a self energized gasketI 553; (AC) I	561	MOISTURE	
METAL WORKING		Мікіс, В. В.		Moisture stresses in a long hollow wood pole of constant outer and inner radius	
Lubrication review: a digest of the liter-		Correlation of pool-boiling data, A new-		in a state of plane strainAM	641
ature for 1967L	225	including the effect of heating surface		Momentum	
METALS. See also ALLOYS; AUTOFRETT-		characteristicsHT	245	Momentum flux in two-phase flowHT	454
AGE; STEEL		Heat transfer in rough tubes with tape- generated swirl flowHT	443	Resistances to heat and momentum trans-	204
Anisotropic plate steel, Neck-and-split ten-			***	fer in the viscous sublayer at rough	
sile fracture ofB		Miklowitz, J.		walls, Some correlations forHT	488
Crack growth under cyclic compression		Transient excitation of an elastic half		MONEY, H. A.	
Dynamic fracture testing, Basic concepts	631	space by a point load traveling on the surfaceAM	505	Plastic limit pressures of reinforced open-	
forB	519	1	000	ings in cylindrical shells, Experimental	
Dynamic fracture toughness of A533 steel	0.00	MILENKOVIC, V.		investigation of the (D)I	715
В		Hunting of railway vehicle on test stand, Problems on (D) I	007	Monroe, E. S., Jr.	
Dynamic tear test, Mechanical aspects of			887	Massive recirculation as a method of mini-	
theB	535	MILES, J. E. P.		mizing corrosion in the combustion of	205
Effect of axial compression on low-cycle fatigue of metals in tensionB	780	Screw conveyers and feeders, A study of		residual fuels (D)P MONTE CARLO METHOD	200
Elastic-plastic stress distribution in a com-		factors affecting the performance of	294	The state of the s	
pressed ring (D)B 562; (AC) B	563		004	Monte Carlo method, A modification to the the Exodus method (D) (AC)HT	291
Fatigue damage accumulation, A general		MILLER, D. R.		Montgomery, G. L.	-01
theory ofB		Pressure suppression containment design—	19	Cup drawing from an anisotropic blank	
Flow-induced vibrations of metal bellows		current state of the artP	13	(D)I	771
Green's function for the stress-intensity	1100	MILLER, E. H.		Moody, F. J.	18
factors of edge cracks and its applica-		Optimization of heater design conditions in	171	Liquid/vapor action in a vessel during	
tion to thermal stresses, AB	618	power plant cycles (D)P	171	blowdownP 53; (AC) P	134
Heat transfer to mercury flowing in line		MILLER, JAMES A.		Pressure pulse model for two-phase critical	
through an unbaffled rod bundle: experi- mental study of the effect of rod dis-		Heat transfer in the oscillating turbulent boundary layerP	990	flow and sonic velocity, AHT 371;	900
100 010-		***************************************	239	(AC) HT	1000

MOODY, G. B.		NACHBAR, W.		Newton's Method	
Plastic storage tanks, Analysis and design of 1 400; (AC) I	405	Optimization of a viscoelastic structure: the seat-belt problemAM	565	Continuation of Newton's method through bifurcation pointsAM	
Moon, F. C.	400	NAIDITCH. S.	000	Ng, Charles C. W.	400
Vibration and dynamic instability of a		Metal ammonia solutions as heat transfer		Behavior of hydrodynamic, noncontacting	
beam-plate in a transverse magnetic	00	fluids to -185 deg C, Analysis ofHT	194	face seals (D)L	
Moore, R. E.	92	Nan, Ninc Plane waves due to combined compressive		Effects of geometry and inertia on surface seal performance, The — turbulent flow	
Optimization of heater design conditions in		and shear stresses in a half spaceAM	189	(D)L	
power plant cycles (D)P	170	NASH, G. E.		Herringbone-grooved gas-lubricated jour-	
Morcos, W. A.		Dynamic tear test, Mechanical aspects of	***	nal bearing, Experimental stability studies of the (D)	
Oscillating conveyers, On the design ofI	353	NB	535	NICKELL, R. E.	00
Mori, H. Externally pressurized gas bearings, The-		Nashif, A. D. Resonant beam tuned damping device, A		Approximate solutions in linear, coupled	
oretical flow-methods forI	181	P 143; (AC) P	148	thermoelasticity (AC)AM	373
Morris, E. B.		NATURAL GAS		Nicoll, W. B.	
Corrosion of carbon steel tubed feedwater		Unsteady flows in natural gas piping sys-		Prediction of turbulent boundary layer growth in adverse pressure gradients,	
heaters, Effect of water chemistry and design onP	102	tems, Analysis and control ofB 331; (D) B 338; (AC) B	339	A modified entrainment theory for	
Morse, Philip M. (co-author)		NAYAK, P. R.		theB	649
"Theoretical Acoustics" (BR)AM	382	Wheel-rail adhesion (D)I	848	NIEMANN, R. A. Optimal control problem with unrestricted	
Morsi, S. A.		NEALY, D. A.		final time, On theB	
Dynamic stiffness of controlled hydrostatic bearings, TheL	597	Porous wall cooling, Comment on and in- vestigation of	284	NIESSEN, P.	
Moses, H. L.		NECE, RONALD E.	-	Thermal instability in fluid layers in the	
Response of a fluidic air gaugeB	475	Water jet pumps, Optimum design of		presence of horizontal and vertical temperature gradientsAM	
Моте, С. D., Jr.		(D)P	139	121; (AC) AM	
Expected equivalent damping under ran- dom excitation	974	New processes of cup drawing, The me-		NITROGEN	
Free, periodic, nonlinear oscillation of an		chanics of someAM	304	Nucleate boiling with liquid nitrogen, The	
axially moving stripAM	83	NEGRONI, F.		inception ofI	1210
Nonlinear oscillation of a cylinder contain- ing a flowing fluidI	1147	Plastic tensile instability criteria, On the	000	Nix, G. H. Pool boiling heat transfer from teflon-	
Mow, V. C.	1141	I 659; (AC) I	663	coated stainless steelHT	
Lubrication in biomechanical joints, The		Nelson, C. W. Transient axially symmetric excitation of		364; (AC) HT	370
role ofL 320; (AC) L	327	a circular elastic rod in plane strain		Noise	
MOWBRAY, D. F.		(AC)AM	379	Acoustic resonances and multiple pure	
Stress and strain redistribution in a		NELSON, E.		tone noise in turbomachinery inletsP	
notched plate specimen during cyclic loading, Note onB	379	Variables affecting the dynamic response of thermocouples attached to thin-		Reduction of noise and vibrations in a	
Symmetric U-shaped notches in tension		skinned models	166	hydraulic turbineB	722
strips, A note on stress-concentration		Nelson, F. C.		Nonlinearities	
factors forAM	882	Influence of dissipative heating on the		Nonlinear oscillations in systems with restricted nonlinearitiesAM	
MROZ, Z. Flow of bulk solids, Limit plasticity ap-		loss factor of a viscoelastically damped	OTE	NORTHEAST CORRIDOR	500
proach to some cases ofI	357	beam, TheI	310	Transit propulsion unit suspension, A	
MUJUMDAR, A. S.		NELSON, J. A.		new - proved on Northeast Corridor	
Near-wake of a circular cylinder in cross-		Transit propulsion unit suspension, A new — proved on Northeast Corridor high-		high-speed test carsI	897
flow, The (D)B	328	speed test carsI	897	Norwood, F. R.	
MULLIGAN, J. C.		NELSON, L. H.		Dynamic response of rolamite, A theo- retical and experimental investigation	
Transient freezing of liquids in forced flow inside circular tubesHT 385;		Wear ring seals for high-speed, high-pres-		of the	
(AC) HT	389	sure turbopumps, Evaluation ofL 438; (AC) L	450	Exact transient response of an elastic	
MULLIN, J. V.		Nelson, W.	400	half space loaded over a rectangular region of its surfaceAM	
Contact conformity effects on spinning		External corrosion reactions on surfaces,		Notches and Notching	010
torque and friction (D)L	585	Radioactive sulfur oxide studies of (D)		Double-notch creep rupture of 5 Cr-0.5	
MURPHY, G. J.		P	221	Mo steelsB	49
Linear optimal control problems, A new approach to the solution ofB 149;		NEMAT-NASSER, S.		Notch-bend strength of titanium, alumi-	
(AC) B	154	Elastic - plastic, work - hardening arches	247	num, and copper-base alloys in heavy sections	
MURTHY, M. V. V.		Instability of a mechanical system induced		Symmetric U-shaped notches in tension	
Stresses around an elliptic hole in a cylin-	-	by an impinging fluid jetAM	693	strips, A note on stress-concentration	
drical shellAM	39	Nendl, Dusan		factors forAM	882
MUSA, SAMUEL A. Nonlinear oscillations in systems with re-		Laminar inward flow of an incompress- ible fluid between rotating disks, with		Nouvion, F. Wheel-rail adhesion (D)I	949
stricted nonlinearitiesAM	360	full peripheral admission (D)AM	375	Novak, G. E.	-
MUSTER, D.		Networks		Thermal stresses in railcar wheels, A	
Balancing criteria and their relationship		Statistical estimation and elimination of		three-dimensional finite difference solu-	
Whirl in a finite journal bearing with a	1035	thermal network model errorsHT	554	tion for the	891
continuous lubricating film, An analytic		Transients in pneumatic networks, Numer- ical solutions of		Novak, J. D. Non-Newtonian behavior of polymer	
solution forI	1189	Part 2: Nonlinear termination prob-		blended petroleum oils, The effect of	
MUTHIYALU, N.		lemsAM	588	pressure on theL	
Sinusoidal rocking of a rigid rectangular body of an infinite isotropic elastic		Part 3: Network problems with branching	594	459; (AC) L	463
plateAM	648	NEVILLE, CARLTON F.		NOWAK, E. S.	
Myers, G. E.	-	Flow and heat transfer in ducts of arbi-		Calorimeter apparatus to measure the enthalpy difference of heavy water,	
Thermal transients in plane walls, cylin-		trary shape with arbitrary thermal	***	ART	
ders, and spheres, Effect of container ca-		boundary condtions (D)HT	588	Nowinski, J. L.	
pacitance onHT	67	Nevins, R. G. Film boiling heat transfer from an oscil-		Instability of a thick nonhomogeneous	
Myers, H. Lubrication review (digest of 1967 liter-		lating sphereHT		elastic layer under high initial stress	
ature):		267; (AC) HT	272	Noves, B. S., Jr.	908
Boundary lubricationL	241	NEWLAND, D. E.		Aerodynamic drag on vehicles in tunnels	
		Steering a flexible railway truck on		······································	
and the second second second second		curved trackI	208	Nozzles	
ADMINISTRATION OF THE PARTY OF		NEWMAN, JOHN Extension of the Lévêque solutionHT	177	Assessment of the plastic strength pres-	
		NEWNHAM, J. A.		sure vessel nozzles (D)	
Na, T. Y.		Friction and adhesion in deformation proc-		Low density nozzle flowB	81
Water jet pumps, Optimum design of	140	essing, Effect of die surface composi-		Pulsating flows in infinite and finite	
Р 62; (АС) Р	140	tion onL	301	conical nozzles, Analysis ofAM	1 159

Logicityappe strin in a vased during bloodorm. Si; (D.P. 135; (AC) P. 136. (D.P. 135; (AC) P. 136. (D.P. 135; (AC) P. 136. (D.P. 135; (AC) P. 136; (D.P. 136; (D.P	V P				PARNES, RAYMOND	
Liquidity-types extine in a yeast during blooders. So Division of the blooders	NUCLEAR ENGINEERING. See also REACT	ORS,	OSCILLATION AND OSCILLATORS			
Of Donnest Wilder and Part Posses P			Approximate equivalent linearization tech-	950		
Optimization of patter design confidence of the pattern of process of the pattern of the pattern of the pattern of process of the pattern of the	Liquid/vapor action in a vessel during		nique for nonlinear oscillations, AnAm	000		51
Opinimization of batter dusting conditions prover plant (SVR 2011). Let Design based on linearity provided the provided designed for executed provided designed for executed content of the content of the plant in each of the plant in the pl	blowdownP	194	and experimental investigation of aB	750		
In power jaint cycles NORLEAR E. D. (1) P. Pity (1, C) P. 17 NORLEAR E. D. (2) P. Pity (1, C) P. 17 NORLEAR E. D. (2) P. Pity (1, C) P. 17 NORLEAR E. D. (3) P. Pity (1, C) P. 17 NORLEAR E. D. (4) P. 17 NORLEAR	Ontimization of heater design conditions	134				
Nozzera Recursos. Ser Racrons. Nozelación (1994). Con provincia designed for accelerating flore canade: segre for gas loads and servinciant instea on hydrofolis designed for accelerating flore canade: segre for gas loads and servinciant tests on hydrofolis designed for high bond Kapha turbine. B 425 (AG) B 425 (AG) B 425 (AG) B 426 (AG) B	in power plant cyclesP		Part 1 — Design based on linearized		tween two elastic cylinders (D)L	349
Singe for gas locks **Gravitation tasts on hydroficils designed for accelerating flow cascellation of the Cartesian Control of the Cartesian Cont	159; (D) P 170; (AC) P			656		
NOLANCE, IV. Secretary of hydrochia designed for accelerating the case-side. Report 4.—Three profiles designed for accelerating the case-side. Report 4.—Three profiles designed for high hand kellyman totaling. 1, 10, 10, 11, 11, 11, 11, 11, 11, 11,	NUCLEAR REACTORS. See REACTORS, NUCLEA	AR		004		
pellated lines and process of the plane, On theAM 10 No. R. H. Transies but transfer is closed containers 167 (A) No. R. H. Aerodynamic drag on vehicles in tunnels 167 No. R. H. Aerodynamic drag on vehicles in tunnels 167 No. R. H. District on the plane, On theAM 157 (A) No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Aerodynamic drag on vehicles in tunnels 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transfer is closed containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies of the most containers 167 No. R. H. Transies but transies 167 No. No. R. H. Transies but transies 167 No. No. R. H. Transies but transies 167 No. No. R. H. Transies but transies 167	NUMACHI, F.		signs for gas loads	004	borne flowingI	303
saccierating flow cascades signed for highly head Kapith nurther. Bith bead Kapith nurther and highly nurther after gas injection. Nexs. R. H. Nexs. R. H. Nexs. R. H. Nexs. R. H. On the sacrogament of the control of the contro	Cavitation tests on hydrofoils designed for		nellant lines	671		
NNN. R. I. The problem of the control containers after gas injusted to the control from a life of the control heat transfer incine containers after gas injusted to the control from a life of the control heat transfer incine control from a life of the control heat transfer incine control from a life of the control heat transfer from a life of the control heat tra			Free, periodic, nonlinear oscillation of an			311
Norman and Anjunt terms (2): (AC) II Arrangement heat transfer in closed containers of the control of the contr			axially moving stripAM	83		
None, R. H. Transient bat transfer in closed containers Transient bat transfer from a closed containers Transient bat transfer from a close of containers Transient bat transfer from a close containers Transient bat transfer in close of containers Transient bat transfer from a close containers Transient bat transfer from a close containers Transient bat transfer from a close containers Transient bat transfer from a close containers Transient bat transfer from close containers Transient bat transfer from close containers Transient bat transfer from close containers Transient bat transfer in containers Transient bat transfer in transfer from a close container to transfer during a subject to transfer during of a participation of a past babble in an infinite containing transient of transient bat transfer transfer during transfer transfer du		490				417
Transies hast transfer in closed containers after gas injection		402	ing a flowing fluid	1147	PASLAY, PAUL R.	
Areafynamic frag on vehicles in tunnies Areafynamic frag on vehicles in tunnies Areafynamic frag on vehicles in tunnies Bernard of the control of the contro				360		
Accelyrance drag on vehicles in tunnels 644 Accelyrance drag of the feature districts of the content of the feature drag of the feature drag of the feature districts of the feature drag of the feature drag in tunnels 644 Accelyrance drag of the feature drag input terpuse caused by incretify force in the cranks and occher mechanisms, 00 the 17 OLENDAR, R. H. Transistor, freezing of liquids in force of the cranks and occher mechanisms, 00 the 17 OLENDAR, R. D. Transistor, freezing of liquids in force of the cranks and occher mechanisms of the cranks and occher mechanisms, 00 the 17 OLENDAR, R. D. Transistor, freezing of liquids in force of the cranks and occher mechanisms, 00 the 17 OLENDAR, R. D. Transistor, freezing of liquids in force of the cranks and occher mechanisms with two general onstraints. An analytical expression of 17 OLENDAR, R. D. Transistor, freezing of liquids in force of the cranks and occher mechanisms with two general onstraints. Accept and the cranks and feature of mechanical face on the composition of the composition of the cranks and feature of mechanical face on the composition of	after gas injectionHT	461	Oscillation of a gas hubble in an infinite	300		15
Accordynamic drag on vehicles in tuneds B Oscillations of a material politic prime mechanism, on the main simulated accellitating cylinder mechanism, on the main simulation accellitation of a material disk, one of which is subject to a normal simulation coefficients for from an investigation of the material disk, one of which is subject to a normal simulation coefficients for the main simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal simulation accellitation of the material disk, one of which is subject to a normal disk, one of which is subj	NWUDE, J. K.		fluidHT			
O'Donnell, W. J. Bull-In ends of beams and plates, Local flashility coefficients for 907; (AC) 1 61 Free-ocception best transfer from an image of the plate in are	Aerodynamic drag on vehicles in tunnels		157; (errata) HT	292		200
Spherical oscillating cylinder mechanism, On the transport of particle Kingdom, Review of (AC) _ Lower of which is adopted to anomalize distance of the particle distance o	B	694		007		020
O'Donnell, W. J. Built-in ends of beams and plates, Local flexibility coefficients for the L. Duilt-in ends of beams and plates, Local flexibility coefficients for the L. Free-convection heat transfer from an inclined beated flat plat in air				307		
O'Dennell, W. J. Diffice ends of beams and plates, Local flexibility or confirmation from a minimal flexibilit			Spherical oscillating cylinder mechanism,	143		991
O'DONNELL W. J. O'THOUR, R. B. O'CYTEN, R. B. O'CYTEN, R. B. O'CYTEN, R. B. O'CHAYA, K. Balancing of the fluctuating input torques caused by inveits forces in the cranks and received expression of M. J. O'LORAYA, K. Balancing of the fluctuating input torques caused by inveits forces in the cranks and received expression of M. J. O'CANA J. Balancing of the fluctuating input torques caused by inveits forces in the cranks and received expression of M. J. O'CANA J. Balancing of the fluctuating input torques caused by inveits forces in the cranks and received and training input torques caused by inveits forces in the cranks and received and training input torques caused by inveits forces in the cranks and internal heat source O'LOERN W. G. O'LOERN W. W. F. O'LO			The flow between two parallel circular			001
O'DONNELL W. J. Builth: neds of beams and plates, Local flexibility coefficients for the office of the composition of the compo	0		disks, one of which is subject to a nor-			
O'DONNELL W. J. Built-in ends of beams and plates, Local facilities of Gri (AC) I of Corrion, R. B. Free-convection heat transfer from an inclination of the corrion of the corrion of the correct of t	U		mal sinusoidal oscillationL	126		1175
O'DONNELL W. J. Bull-in ends of beams and plates, Local fiestibility coefficients for the Correct free seed application in a liquid oxygen pump. A Logars, T. Draws, K. Brownstein heat transfer from an inclined heated flat plat in air HT 1977RR, D. H. OFFINE, D. H. Stresses in fiber-reinforced composites flow indee circular tubes. BT 355; (AC) HT 355 (AC)						
Bullich ends of beams and plates, Local flexibility conferious for the Land flexibility conferious for the Land flexibility conference on the Correct flexibility control and transfer from an inclined heated flat plat in air — HT 192 OFFARE, D. H. Shoe-type brake-clutch systems, Generalizing the analysis of 604; (AC) I 701 OGAWA, K. Balancing of the fluctuating imput corpuse caused by inertia forces in the crank-and-rocker mechanisms, On the Land flower and properties of strain induced corner crediting the analysis of 604; (AC) I 701 OGAWA, K. Balancing of the fluctuating imput corpuse caused by inertia forces in the crank-and-rocker mechanisms, On the Land flower mechanisms of the crank-and-rocker mechanisms, On the Land flower mechanisms of the crank-and-rocker mechanisms, On the Land flower mechanisms of the crank-and-rocker mechanisms of	O'DONNELL W. J.		_ 1.08	890		931
DEFINISHING CONTRIBUTION OF The Control of the Cont						
OCTITING, R. B. Pres-convection heat transfer from an in- criffical basied flat plat in air				669		
Sixtenses in fiber-einforced composites with imperfect bonding AM Soziak, M. N. The Correct alizing the analysis of Section 2012 and experimental investigation of a	607; (AC) I	614		000		
with imperfect bonding Am 865 OZISIK. AN 1912 D. H. Shee-type brake-clutch systems, Generalising the analysis of 17 OZISIK. Sheetype brake-clutch systems, Generalising the analysis of 21 OZISIK. Transient freesing of liquids in forced flow inside circular tubes. \$\$(AC)\$ HT 385; (AC)\$ HT 385	OETTING, R. B.				plateAM	648
ODITION PARK, D. M. P. Sheeping the analysis of 694; (AC) I 701 OLEANA, K. Balancing of the fluctuating input torques caused by inertia forces in the crank- DAINER, R. M. Shahalisas, On the I 702 OLEANA, K. Microlayer thickness in nucleate holling. An analytical expression of HT 71 OLEGINATION Contract of the fluctuating input torques caused by inertia forces in the crank- man and principle expression of HT 71 OLEGINATION Contract of the fluctuating input torques caused by inertia force in the crank- man and principle expression of HT 71 OLEGINATION Contract of the fluctuation review (digest of 1967 litera- Boundary jubrication L. 241 OPERATION Coperation and failure of mechanical face seals, An investigation of the L. 713 OPINITIZATION "An introduction to Structural Opinius- "An introduction to Stru			with imperfect bondingAM	865	PAVLIN, CYRILLE	
Normanies of the continue of t		192				
alising the analysis of 694 (AC) I 701 Ocana, K. Balancing of the fluctuating input torques caused by inertia forces in the cranism of colors mechanisms, On the 1 or 10					and experimental investigation of aB	750
OLAWA, K. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Balancing of the fluctuating input torques caused by inertia forces in the crank. OLAWAR, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER, R. Thermostat for precise temperature control from -100 to +550 C. Boll SLEEWER						
ORAMA, K. Balancing of the fluctuating input torques caused by inertia forces in the crank-sing in subter. DLANDER, R. R. Mirrolayer thickness in nucleate boiling. The CLEAN AND AND AND AND AND AND AND AND AND A	694 (AC) I	701		389		
Balancing of the fluctuating input torques caused by inertia force in the erank-and-rocker mechanism, On the I I Shirrolyzer thickness in nucleate boiling. An analytical expression of MT I Microlyzer thickness in nucleate boiling. An analytical expression of MT Microlyzer distribution in a piper subjected to time-dependent surface heas flux and internal heat source face heas flux and internal heat source flux many the control from -100 to +650 C B 160 DISZEWSKI, W. F. Lubrication review (digest of 1967 literature). DYEARION Operation and failure of mechanical face seals, An investigation of the L 1.713 Optimization in Control Theory and Practices (RR) AM Moreover the field AM Moreover control from failure of mechanical face seals, An investigation of the L L L L D Dynamic behavior of the L D Dynamic response of cylindrical and conical panels, The bynamic response of registering methods dorone and surface alteration durin		****				
caused by inertia forces in the crank-and-rocker mechanisms, on theI OLANDIR, R. R. J. C. L. C.			Electron paramagnetic resonance measure-			
OLANDIR, R. R. Microlayer thickness in nucleate boiling. Microlayer thickness in nucleate boling and sequential interpolating fillers for nonlinear processes. Microlayer thickness in nucleate boling fillers for nonlinear processes. Microlayer thickness in nucleate believe constraints. Microlayer thickness in nucleate believe control flow of the season of the			ing in rubber	587		
Microlayer thickness in nucleate boiling. An analytical expression of HT OLGEN N. Y. Unateady temperature distribution in a sphere subjected to time-dependent surface heat flux and internal heat source to from -100 to +650 C B 168 OLSEEWSKI, W. F. CLEDINBURGER, R. Thermotat for precise temperature control from -100 to +650 C B 168 OLSEEWSKI, W. F. CLEDINGUIGHT, R. Turbulent, compressible free shear layers, Initial development of B PAMIN, P. R. BOLIZEWSKI, W. F. CLOPTATION OPERATION		97	ing in rubber			
An analytical expression of MT 178 OLDER, N. Y. Unsteady temperature distribution in a sphere subjected to time-dependent surface heat flux and internal heat source MT To Linking Control From — 190 to +650 C						
Unsteady temperature distribution in a sphere subjected to time-dependent surface heat flux and internal heat source of this and internal heat source of the more		170				
Unsteady temperature distribution in a sphere subjected to time-dependent surface heat flux and internal heat source "BT OLDENBURCER, R. H. Turbulent, compressible free shear layers, included the property of the control of the property		178	_			352
sphere subjected to time-dependent surface heat flux and internal heat source face heat flux and internal heat source face heat flux and internal heat source face heat flux and internal heat source flux and levelopment of mean and same internal source flux and evelopment of mean and some internal source flux and evelopment of mean and some internal source flux and flux of mechanical face seals, an investigation of the mean flux and source flux and ordinate loaminate flux and source flux and ordinate loaminate flux and source flux and ordinate loaminate flux and source flux and flux of mechanical face seals, an investigation of the mean flux and source flux and ordinate loaminate flux and source flux and evelopment of mean and source flux and evelopment of mean and source flux and evelopment of mean flux source flux plux in infinite and finite seals, an interval politic source flux and internate and source flux and source flux and internate and source f			P			
Face heat flux and internal heat source MT OLDENBURCER, R. Thermostat for precise temperature control from —190 to +650 C. —B OLSZEWSKI, W. F. Lubrication review (digest of 1967 literature): Boundary lubrication L. OPTHATION Operation and failure of mechanical face seals, and investigation of the L. OPTHATION Operation and failure of mechanical face seals, and investigation of the L. OPTHATION Operation and failure of mechanical face seals, and investigation of the L. OPTHINIZATION Operation and failure of mechanical face seals, and investigation of the L. Optimized in incorter of the chanical face seals, and vibration isolation put, A new criterion for L. Optimized in solation, Comparative study of L. Optimized in incorter of the chanical face seals, and investigation of the L. Optimized in the present of the L. OBJECT S. R. H. Turbulent, compressible free shear layers, initial development of B. PAMIDI, P. R. Roberts' cognales of space four-har mechanisms with two general constraints (D) L. PARSA, V. H. T. Pleasting flows in infinite and finite conical nozzle, Analysis of AM 159 Dynamic behavior of the L. 149 Optimization in Control Theory and Vibration and dynamic instability of a beam-plate in a transverse magnetic field AM 251 Optimized point techniques for shock and vibration isolation for miput, A new criterion for L. Optimized point techniques for shock and vibration isolation of the L. 100 CRCUTT, F. K. Operation and failure of mechanical face seals, and investigation of the L. 713 Optimized point techniques for shock and vibration isolation of the L. 713 Optimized point techniques for shock and vibration input, A new criterion for L. OPTIMIZATION Operation and failure of mechanical face seals, and vibration input, A new criterion for L. 710 Optimized point of the L. 713 Optimize						
OLENBURGER, R. Thermostat for precise temperature control from —190 to +565 C — B 168 OLSZEWSKI, W. F. Lubrication review (digest of 1967 literature): Boundary lubrication — L 241 OPERATION Operation and failure of mechanical face seals, An investigation of the — L OPITMIZATION "An Introduction to Structural Optimization" (filterature available) — AM 901 pinnization in Control Theory and Practice" (BR) — AM 901 pinnization in Control Theory and Practice" (BR) — AM 901 pinnization in Control Theory and Practice" (BR) — AM 901 pinnization techniques for shock and vibration isolation, Comparative study of the methods for finity of the methods for fluid amplification of the — B 121; (D) B 561; (AC) B 562 Pree molecule flow through alit and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participating bounding walls — AM 1715 ORIFICES Pree molecule flow through ality and annular orifices in the presence of participation of the — B 121; (D) B 561; (AC) B 562 Pree molecule flow through ality and annular orifices in the presence of participation of the — B 121; (D) B 561; (AC) B 562 Pree molecule flow through ality and annular orifices in the presence of participation of the — B 121; (D) B 561; (AC)						383
Turbulent, compressible free shear layers, Initial development of B B 105.2EWSKI, W. F. Lubrication review (digest of 1967 literature): Boundary lubrication		45	PAGE, R. H.			
Thermostat for precise temperature control from -190 to +650 C B 168 OLSZEWSKI, W. F. Lubrication review (digest of 1967 literature): Boundary lubrication L 241 OPERATION Operation and failure of mechanical face seals, An investigation of the L 713 OPTIMIZATION "An Introduction to Structural Optimization" (filterature available) AM 911 Optimization in Control Theory and Practice" (BR) AM 383 Optimization in control Theory and ovibration isolation, Comparative study of I 1005 Optimizing linear vibration isolators of systems subject to random input, A new criterion for I 1005 OPTIMIZATION Effects of crifice plate eccentricity on flow coefficients, Experimental study of the B 121; (D) B 561; (AC) B 562 Free molecule flow through silt and annular orifices in the presence of participating bounding walls AM Plastic limit pressures of reinforced openings in cylindrical abells. Experimental investigation of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of mechanical face to the conficient plant of the control of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of mechanical face to the control orifice in the presence of participating bounding walls AM 715 PARKINSON, G. V. Unateady flow and wake near an oscillating-contact lubrication (D) L 716 PARKINSON, G. V. Unateady flow and wake near an oscillating cylinder, the Control orifice in the presence of fluid ampliping the control or the control	Oldenburger, R.					
Obszewski, W. F. Lubication review (digest of 1967 literature): Boundary lubrication L. 241 OPERATION Operation and failure of mechanical face seals, an investigation of the L. 713 Optimization in Control Theory and Paratice" (BB) AM optimization and dynamic instability of a beam-plate in a transverse magnetic field AM optimization in Control Theory and Paratice and vibration and dynamic instability of a beam-plate in a transverse magnetic field AM optimization from linear elastic (D) L. 425 (Control Theory and and vibration instability of a beam-plate in a transverse magnetic field AM optimization in Control Theory and and vibratic in field AM optimization in Control Theory and investigation of the L. This is a stransverse magnetic field AM				67		
Labrication review (digest of 1967 literature): Labrication review (digest of 1967 literature): Loundary lubrication L. 241 OPERATION Operation and failure of mechanical face seals, An investigation of the L. 713 OPTIMIZATION "An Introduction to Structural Optimization" (literature available) AM "Optimization in Control Theory and Practice" (IBC) AM 383 Optimization in Control Theory and Practice" (IBC) AM 383 Optimization in techniques for shock and vibration isolation, Comparative study of Invard pumping in mechanical face seals, An investigation of the L. 713 ORCUTT, F. K. Operation and failure of mechanical face seals, An investigation of the L. APARISAL, W. G. Gravity flows of ideally plastic materials through silts and annular orifices in the presence of participating bounding walls AM 715 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 ORGERT, P. A. Linear dynamic modeling of flowing fluid lines B 211; (AC) B 241 Very small diameter laminar flow orifices, An investigation of the T. 710; (D) I 715; (AC) T. 716 ORGERT, P. A. S. T.		168	PAMIDI, P. R.			100
Boundary lubrication						
Boundary lubrication L. 241 OPERATION Operation and failure of mechanical face seals, An investigation of the L. T. Pulsating flows in infinite conical norzeles, Analysis of AM Spherical squeeze-film hybrid bearing, Dynamic behavior of the L. AM 911 Optimization in Control Theory and Practice? (BR) AM 383 Optimization techniques for shock and vibration isolation, Comparative study of AM 383 Optimization techniques for shock and vibration isolation, Comparative study of I 100 CRUTT, F. K. Lailure of mechanical face seals, An investigation of the L. ORIFICES Effects of orifice plate eccentricity on flow coefficients, Experimental study of the B 121; (OD B 561; (AC) B 562 Free molecule flow through sitt and annular orifices in the presence of participating bounding walls AM 9115 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1 715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 710; (D) 1 715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of the I 716 ORCHER P. A. C. M. Shakedown as a guide to the design of pressure vessels 1 799; (AC) I 80 PARKINS N. G. V. Unateady flow and wake near an oscillating cylinder, The (D) B 503, PARKS, V. J. Unateady flow and wake near an oscillating cylinder, The (D) B 503, PARKS, V. J. Unateady flow and wake near an oscillating cylinder, The (D) B 503, PARKS, V. J. (author) PARKINS N. (author) PARKI				102		
OPERATION Operation and failure of mechanical face seals, An investigation of the		941		127		
Operation and failure of mechanical face seals, An investigation of the L. 713 OPTIMIZATION "An Introduction to Structural Optimization" (filterature available) AM "Optimization in Control Theory and Practice" (BR) AM Optimization in Control Theory and Practice" (BR) AM Optimization in Control Theory and Optimization isolation (comparative study of 1128 Optimization in isolation (comparative study of 1105 ORCUTT, F. K. Operation and failure of mechanical face seals, An investigation of the L. 713 ORIFICES Effects of orifice plate eccentricity on flow coefficients, Experimental study of the B 121; (AC) B Free molecule flow through slit and annular orifices in the presence of participating bounding walls AM Plastic limit pressures of reinforced openings in cylindrical shells, Experimental investigation of the I 170; (D) I T15; (AC) I 716 Very small diameter laminar flow orifices, An investigation of B 546 ORNER, P. A. An investigation of flowing fluid lines B 211; (AC) B 500 CAN					Dispersive pulse propagation parallel to	
Spherical squeeze-film hybrid bearing. "An Introduction to Structural Optimization" (literature available)				159		
OPTIMIZATION "An Introduction to Structural Optimization" (filterature available)		713			_	479
"An Introduction to Structural Optimization tich iterature available) AM "Optimization in Control Theory and Practice" (BR) AM Optimization techniques for shock and vibration isolation, Comparative study of				149		
tion" (literature available) AM 911 "Optimization in Control Theory and Practice" (BR) AM 383 Optimization techniques for shock and vibration isolation, Comparative study of						
Practice" (BR)			Vibration and dynamic instability of a			
Optimization techniques for shock and vibration isolation, Comparative study of				00		. 308
vibration isolation, Comparative study of		000		92		
Optimizing linear vibration isolator systems subject to random input, A new criterion for						
Optimizing linear vibration isolator systems subject to random input, A new criterion for		1128		495		
Gravity flows of ideally plastic materials through slots	Optimizing linear vibration isolator sys-			4.60		-
Content for modeling of flowing fluid lines methods for fluid amplifers Analysis and modeling of Societals and failure of mechanical face seals, An investigation of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid first manufacture and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and particular of the modeling of flowing fluid lines methods for fluid amplifers and modeling of flowing fluid lines methods for fluid amplifers and modeling of flowing fluid lines methods for fluid amplifers and modeling of flowing fluid lines methods for fluid amplifers and modeling of flowing fluid lines methods for fluid amplifers and modeling of flowing fluid lines methods for fluid amplifers and friction and fricti						411
Operation and failure of mechanical face seals, An investigation of the		1005				
ORIFICES Effects of orifice plate eccentricity on flow coefficients, Experimental study of the B 121; (D) B 561; (AC) B 562 Free molecule flow through silt and annular orifices in the presence of participating bounding walls — AM Plastic limit pressures of reinforced openings in cylindrical shells, Experimental investigation of the I 715 Very amall diameter laminar flow orifices, An investigation of 562 ORNER, P. A. Linear dynamic modeling of flowing fluid lines — B 211; (AC) B 546 Stochastic testing methods for fluid amplifiers — B 211; (AC) B 216 Vortex amplifier, Analysis and modeling PARKIS, R. F. Dynamic response of cylindrical and conical panels, The MAM 271 Soft and panels, The MAM 271 PARKISS, R. F. Dynamic response of rolamite, A theoretical and experimental investigation of the unit of the design of pressure vessels — 799; (AC) I 80 PERCIVAL, C. M. Dynamic response of rolamite, A theoretical and experimental investigation of the unit of the unit of the pressure vessels — 799; (AC) I 80 PERCIVAL, C. M. Dynamic response of rolamite, A theoretical and experimental investigation of the unit of the unit of the unit of the pressure vessels — 799; (AC) I 80 PERCIVAL, C. M. Dynamic response of rolamite, A theoretical and experimental investigation of the unit of the unit of the unit of the unit of the pressure vessels — 799; (AC) I 80 PERCIVAL, C. M. Dynamic response of rolamite, A theoretical and experimental investigation of the unit o				421	Motion of a spherical pendulum, A sim-	
ORIFICES Effects of orifice plate eccentricity on flow coefficients, Experimental study of the B 121; (D) B 561; (AC) B 562 Free molecule flow through slit and annular orifices in the presence of participating bounding walls					ple description of theAM	408
Effects of orifice plate eccentricity on flow coefficients, Experimental study of the Beilt (AC) B Free molecule flow through slit and annular orifices in the presence of participating bounding walls — AM Plastic limit pressures of reinforced openings in cylindrical shells, Experimental investigation of the Linus restigation of the Linus response of rolamite, A theoretical and experimental investigation of the Linus response of rolamite, A theoretical and experimental investigation of the Linus response of rolamite, A theoretical and experimental restigation of the Linus response of rolamite, A theoretical and experimental restigation of the Linus response of rolamite, A theoretical and experimental restigation		110				
coefficients, Experimental study of the molecule flow through silt and annular orifices in the pressures of participating bounding walls — AM Plastic limit pressures of reinforced openings in cylindrical shells, Experimental investigation of the IT Tol; (D) I 715; (AC) I Tol; (AC)				271		
B 121; (AC) B 561; (AC) B 562 Free molecule flow through slit and annular orifices in the presence of participating bounding walls						
nular orifices in the presence of participating bounding walls						807
Influence of water on fatigue-failure location and surface alteration during rollings in cylindrical shells, Experimental investigation of the ling-contact lubrication (D) L L Residual stress induced during rolling. A study of 314; (AC) L 318, An investigation of contact lubrication (D) L L Residual stress induced during rolling. A study of 314; (AC) L 318, An investigation of contact lubrication (D) L L Residual stress induced during rolling. A study of 314; (AC) L 318, CE STALISS PARKINSON, G. V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, CE V. Unsteady flow and wake near an oscillating cylinder, The (D) B	Free molecule flow through slit and an-			586		
Plastic limit pressures of reinforced openings in cylindrical shells, Experimental investigation of the I 710; (D) I 715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of 6 80 ORNER, P. A. Linear dynamic modeling of flowing fluid lines 8250chastic testing methods for fluid amplifiers 8211; (AC) B Vortex amplifier, Analysis and modeling 8216; (AC) B 216 Very amall diameter laminar flow orifices, An investigation of 10 ing-contact lubrication (D) L 10 ing-contact lubrication (D) Ind ing-contact lubri	nular orifices in the presence of partici-	7.2		000		
ings in cylindrical shells, Experimental investigation of the I I 710; (D) I 715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of B 546 ORNER, P. A. Linear dynamic modeling of flowing fluid lines B 546 Stochastic testing methods for fluid amplifiers B 211; (AC) B 216 Vortex amplifier, Analysis and modeling An investigation of B 211; (AC) B 216 PARKINSON, G. V. Unsteady flow and wake near an oscillating cylinder, The (D) B 503, 859 PARKS, V. J. Stresses in largely deflected cantilever beams subjected to gravity AM 323 Peristaltic transport (D) (AC) AM 79 Peristaltic waves in circular cylindrical tubes AM 579 Peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical tubes 167 peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical tubes 167 peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical tubes 167 peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical tubes 167 peristaltic waves in circular cylindrical shells, 165 peristaltic waves in circular cylindrical tubes 167 peristaltic waves in circula						
investigation of theI			ing-contact lubrication (D)L	581		
T10; (D) I 715; (AC) I 716 Very small diameter laminar flow orifices, An investigation of						
Very small diameter laminar flow offices, An investigation of	710; (D) I 715; (AC) I	716		are.		
ORNER, P. A. Linear dynamic modeling of flowing fluid lines				000		
Linear dynamic modeling of flowing fluid lines. B 740 Stochastic testing methods for fluid amplifiers. B 211; (AC) B 216 Vortex amplifier, Analysis and modeling Ing cylinder, The (D)		546			Peristalsis	
Inear dynamic modeling of Flowing Intide B 740 Stochastic testing methods for fluid amplifiers Stochastic testing methods for fluid amplifiers B 211; (AC) B 216 Vortex amplifier, Analysis and modeling PARKS, V. J. Stresses in largely deflected cantilever beams subjected to gravity AM 323 PERRONE, N. Limit analysis of short cylindrical shells,				859	Peristaltic transport (D) (AC)AM	
Stochastic testing methods for fluid amplifiers					Peristaltic waves in circular cylindrical	1
fiers						579
	fiersB 211; (AC) B	216		323		

PERTURBATIONS		Small-amplitude frequency behavior of		Free-convection heat transfer from an	
Diakoptics in the determination of tur-		fluid lines with turbulent flowB	678	inclined heated flat plate in airHT	192
bine bucket frequencies by the use of		Unsteady flows in natural gas piping		Harmonic dispersion analysis of incre-	
perturbations, An application of 10	029	systems, Analysis and control ofB		mental waves in uniaxially prestressed	
PESCHL, I. A. S. Z.		331; (D) B 338; (AC) B	339	plastic and viscoplastic bars, plates,	-
Arches in bins, Theory of the formation		PITTING		and unbounded mediaAM	99
of	436	Pitting of steel under varying speeds and		Heterogeneous anisotropic plates, Analy-	261
PETERSON, M. B.		combined stressesL		Influences of large amplitudes, trans-	201
Concentrated contacts for minimum micro-		282; (D) L 290; (AC) L	293	verse shear deformation, and rotatory	
alips, Geometric optimization ofL	360			inertia on lateral vibrations of trans-	
Friction and adhesion in deformation proc-		PLASTICITY		versely isotropic platesAM	254
essing, Effect of die surface composi-		Axisymmetric plans stress problems in		Motion of a flat-plate pendulum in a	
tion on (D)L	358	anisotropic plasticityAM	7	viscous fluid, TheI	1100
Ретпіск, М.		Barreling as an example of free deforma-		Normal vibrations of a rectangular plate	
Interface shear stress in annular flow		tion in plastic workings, A study ofI		with attached massesAM	130
	450	743; (D) (AC) I	754	Sinusoidal rocking of a rigid rectangular	
Petroleum		Bounding principle in the theory of work-		body on an infinite isotropic elastic	
Non-Newtonian behavior of polymer		hardening plasticity, AAM	228	plateAM	648
blended petroleum oils, The effect of		"Dynamic Plasticity" (BR)AM	382	Stability of clamped skew plates under	-
pressure on theL		Elastic-plastic deformation at finite strains		combined loadsAM	139
459; (D) (AC) L	463	AM	1	Stress and strain redistribution in a	
Pfeffer, A.		Elastic-plastic plane-strain solutions with	KOO	notched plate specimen during cyclic	
Granular solid discharged from a bin,		separable stress fieldsAM	528	loading, Note onB	379
	382	Elastic-plastic stress distribution in a		"Theory of Perfectly Plastic Solids"	
Phasook, Sompong		compressed ring (D)B	Ego	(literature available)AM	384
Confined vortex oscillator, A theoretical		562; (AC) B	563	Total heat transfer coefficient in stable	
	750	Elastic- plastic, work - hardening arches	247	film boiling from vertical plate, Analyti-	
PHILIPPOFF, W.	100	AM	241	cal derivation forHT	452
Non - Newtonian behavior of polymer		Flow of bulk solids, Limit plasticity ap-	357	Transient thermal stresses in plates having	
blended petroleum oils, The effect of		proach to some cases ofI	001	a distributed source and arbitrary time-	
pressure on the (D)L	400		870	dependent surroundingsAM	348
PHILLIPS, HENRY	403	measurement	810	Unbonded contact between plates and an	
		mental waves in uniaxilly prestressed		elastic half space, On theAM	198
Corrosion of carbon steel tubed feed-		plastic and viscoplastic bars, plates,		Vibration and dynamic instability of a	
water heaters, Effect of water chemis-		and unbounded mediaAM	59	beam-plate in a transverse magnetic	
try and design onP	102	Initial slope of elastic-plastic boundaries	00	fieldAM	92
PIAN, T. H. H. (reviewer)		in combined longitudinal and torsional		Vibratory bending of damped laminated	
"Theory of Inelastic Structures" (BR)		wave propagation, On theAM	203	platesI	1081
	383	Instability in an elastic-plastic cylindrical	200	Wall temperature and Prandtl number	
PIEPER, KLAUS		shell under axial compressionAM		effects on turbulent boundary layer	
Silo loads in measuring models, Investiga-		47; (D) (AC) AM	909	thicknesses and shape factors for sub-	
	365	Plane strain in plasticity, The applica-	000	sonic compressible gas flow over a	
Pierce, F. J.		tion of an orthogonal net of circles to		flat plateP	281
Generalized isentropic variable area com-		the problem ofAM	736	PLOTKIN, A.	
pressible flow functions for variable		Plastic limit pressures of reinforced open-		Laminar wake behind a finite flat plate,	
specific heat diatomic gasesAM	365	ings in cylindrical shells, Experimental		A numerical solution for the (AC)AM	907
PIERCE, W. S.		investigation of theI		PNEUMATICS	
Implantable valveless heart assist pump		710; (D) I 715; (AC) I	716	Frequency response of pneumatic lines,	
	289	Plastic tensile instability criteria, On the		Remarks on theB	
PIETSCH, W. B.	200		663	Pneumatic transport of fine granular	
		Small-strain plasticity theory for planar		materialI	
Adhesion and agglomeration of solids		slip materials, AAM	15	Transients in pneumatic networks, Numer-	
during storage, flow, and handling —		Some steady-state plastic deformation		ical solutions of	
a surveyI	435	processes, A new upper-bound method		Part 2: Nonlinear termination problems	
Рін, Н.		for analysis ofI		AM	588
Vibration of axially excited circular cy-		731; (D) I 741; (AC) I	742	Part 3: Network problems with branch-	
lindrical shells containing fluid, Experi-				ingAM	594
mental studies of 1	1119	PLASTICS		PNUELI, DAVID	
PINDER, R. W.		Compression of a thin plastic mass be-		Lower bound to the nth eigenvalue of the	
Optimization of heater design conditions		tween two elastic cylindersL		Helmholtz equation over two-dimen-	
in power plant cycles (D)P	171	342; (D) L 349; (AC) L	350	sional regions of arbitrary shapeAM	
PINNING	***	Flow of a melted plastic through a screw		Poffenberger, J. C.	
		extruder, Prediction ofB		Bent submarine cables, Axial stresses in	
Nonlinear vibrations of a beam with		479; (D) B 488; (AC) B	490		
pinned endsI	997	Gravity flows of ideally plastic materials	-	POLAKOWSKI, N. H.	901
PIPELINES, PIPES, PIPING		through slots I 414; (D) (AC) I			
Application of primary sealing criteria		Plastic storage tanks, Analysis and de-		In-process control of residual stress in drawn tubing	
to a self energized gasket 553;		sign of 400; (D) I 404; (AC) I	400	Product flatness in strip rolling mills,	
(D) (AC) I	561	Dr. come		Principles of self control of	
Axisymmetric, nonidentical, flat face		PLATES		702; (AC)	709
flanges with metal-to-metal contact		Anisotropic plate steel, Neck-and-split		_	
beyond the bolt circleI		tensile fracture ofB		POLARIZATION	
615; (D) I 621; (AC) I	622	Built-in ends of beams and plates, Local		Theoretical polarization of off-specular	
Boundary-layer velocity distribution in		flexibility coefficients for the		reflection peaksHT	601
turbulent swirling pipe flow, TheB	728	607; (D) I 613; (AC) I	614	POLLUTION, AIR	
Built-in ends of beams and plates, Local		Corner supported plate, Collocation solu-	994	Air pollution characteristics of gas tur-	
flexibility coefficients for theI	***	Creek proposition rate in 7075 TS plates	884	bine enginesP	290
607; (D) I 613; (AC) I	614	Crack-propagation rate in 7075-T6 plates		Polymers	
Distributed loads on long cylinders, Solu-	200	under cyclic tensile and transverse shear loadings		Non - Newtonian behavior of polymer	
	623	Decay of symmetrical laminar distorted		blended petroleum oils, The effect of	
Forced and self-excited oscillations in pro-	071	profiles between flat parallel platesB		pressure on theL	
	671	Effect of liquid solidification in a parallel	000	459; (D) (AC) I	
Heat transfer in turbulent pipe flow with		plate channel upon laminar-flow heat		"The Flow of High Polymers" (BR)AM	142
optically thin radiation	997	transfer and pressure dropHT		POMAZAL, ROBERT J.	
Linear dynamic modeling of flowing	335	Effect of vortices induced by corona dis-		Timoshenko beam with a moving load, The	
	740	charge on free-convection heat trans-		(D)AM	
fluid lines	140	fer from a vertical plate		Poon, S. Y.	
		427; (D) HT 432; (AC) HT	433		
ings in cylindrical shells, Experimental investigation of theI		Effects of orifice plate eccentricity on		Deep groove rolling contact parameter	
710; (D) I 715; (AC) I	716	flow coefficients, Experimental study		A	210
	110	of theB 121; (D) B 561; (AC) B		POPELAR, C. H.	
Pressure transients in hydraulic pipelines	460	Exact solution for the "radiation layer"	002	Basic equation of junction growth, Or	
Progressive waves on swirling cavity	400	over a flat plateHT	188	the	132
	714	Finite deflections on an elastic circular		Poppets	
Radial heat-flux density distribution in		plate with a central holeAM		Actual popping pressure of a relief valve	
fully developed flow of liquid metals in		Flexural vibration of rectangular ortho-	66.1	with a real helical spring under dynamic	
eircular tubesHT	151	tropic plates, TheAM	101	load	
			-		

POROSITY		Built-in ends of beams and plates, Local		Small cryogenic regenerator performance	-
Critical porosity of free flowing solids,		flexibility coefficients for theI			213
The	488	607; (D) I 613; (AC) I Burning rate development in a closed ves-	614	PRODUCTION ENGINEERING	
Overall deformation of a homogeneous isotropic elastic porous medium, On		sel of arbitrary shape and variable vol-		Axisymmetric extrusion with experiment,	
AM	333	ume, for variable but uniform pressure		Comparison of two complete solutions in	F40
Porous wall cooling, comment on an in-	000	P	69	an	543
	284	Calculating heat transfer and pressure		Barreling as an example of free deforma- tion in plastic workings, A study ofI	
Pulse propagation in a poroelastic solid		drop in ducts with laminar flow, An ap-		743; (D) (AC) I	754
	878	proximate method forHT	171	Chatter vibrations, The modulation of I	1000
POTTER, A. A.		Distributed loads on long cylinders, Solu-	400	673; (D) I 677; (AC) I	679
Storage, flow, and handling of solids,		Effect of liquid solidification in a paral-	623	Computerized determination and analysis	
Opening remarks at the ASME sympo-		lel plate channel upon laminar-flow heat		of cost and production rates for	
sium onI	293	transfer and pressure dropHT	583	machining operations:	
POTTER, J. H.		Elastic behavior of two normally inter-	000	Part 2 - Milling, drilling, reaming, and	
Pressure attenuation in long rarefaction		secting cylindrical shellsI	563	tappingI	585
wave tubes	497	Ellipsoidal heads, An evaluation of ASME		Cup drawing from an anisotropic blank	
Supercritical steam cycle, The totallyP	440	I	636	766; (D) I	771
Powars, Charles A. 113; (D) P	119	Flowability of bins, Effect of initial		Eutectic alloy of Pb and Sn, Some extru-	680
		pressures onI	395	Grinding process instability	
Diffuser performance, Some effects of inlet blockage and aspect ratio onB	250	Granular solid discharged from a bin, Air		Investigation of face-milling temperatures	
Powder Materials	000	pressure in the bulk of	382	by simulation techniques	
Powder materials, Some characteristic		Heat transfer and pressure drop in tape-		772; (D) I 779; (AC) I	780
qualities of	909	generated swirl flow of single-phase waterHT 434; (D) (AC) HT	442	One-dimensional equilibrium cutting gap	
Powe, R. E.	020	Influence of pressure gradient on turbu-	440	in electrochemical machining, Predic-	
Free convective flow patterns in cylin-		lent flows with asymmetric mean veloc-		tion of theI	
drical annuli	914	ityAM	901	755; (D) I 764; (AC) I	765
	914	Laminar flow in an annulus with arbi-		Plastic tensile instability criteria, On the	
Power		trary time-varying pressure gradient		I 659; (D) (AC) I	663
Advancing boiler steam conditionsP	400	and arbitrary initial velocityAM	309	Prevention of chatter vibration in boring	
121; (D) P 127; (AC) P	128	Large deflections of an inflated cylindrical		operations, Some considerations onI	790
Corrosion of carbon steel tubed feedwater		tentAM	845	717; (D) I 729; (AC) I	730
heaters, Effect of water chemistry and design onP	102	Nonlinear response of a cylindrical shell		Product flatness in strip rolling mills,	
Hydrogen damage in carbon steel, Some	102	to an impulsive pressureAM	277	Principles of self control ofI 702; (D) I 708; (AC) I	709
factors controllingP	72	Non-Newtonian behavior of polymer		Profile measurement of coated abrasive	100
Internal corrosion of high-pressure boilers,	""	blended petroleum oils, The effect of	400	surfaces	789
A research study on - final reportP	75	pressure on theL 459; (D) (AC) L	463	Rod-drawing, Optimum die angles and	
Photovoltaic power technology, Status		Plane waves due to combined compressive	100	maximum attainable reductions inI	
ofP 1; (D) (AC) P	131	and shear stresses in a half spaceAM Plastic limit pressures of reinforced open-	189	664; (D) I 671; (AC) I	672
Supercritical steam cycle, The totally P		ings in cylindrical shells, Experimental		Some steady-state plastic deformation	
113; (D) P	119	investigation of the		processes, A new upper-bound method	
Turbine blade vibration due to nozzle		710; (D) I 715; (AC) I	716	for analysis ofI	11
wakesP	223	Prediction of turbulent boundary layer		731; (D) I 741; (AC) I	742
POWER PLANTS		growth in adverse pressure gradients,		Tool wear, Analysis of	
One-way air chambers for pumping plants		A modified entrainment theory for the		Part 1: Theoretical models of flank	-
B 383; (D) (AC) B	386	В	649	wear 790; (D) I 796; (AC) I	798
Optimization of heater design conditions		Pressure attenuation in long rarefaction		Tools and engineering materials with	549
in power plant cyclesP		wave tubesI	497	hard, wear-resistant infusionsI	040
159; (D) P 170; (AC) P	171	Pressure suppression containment design		Transient drilling temperature responses, Building a mathematical model to pre-	
Yards Creek pumped storage project, Ex-		-current state of the artP	13	dietI	641
periences on startup and trial operation	***	Pressure transients in hydraulic pipelines	480	Wear on cemented carbide cutting tools,	
at B 387; (D) B 395; (AC) B	396	B 453; (D) (AC) B	460	A study ofI	652
POWER SYSTEMS		Pressure-exchanger dividers and equalizers, The performance ofB		What sound can be expected from a worn	
Solar array performance as a function of		361; (D) (AC) B	260	tool?	525
orbital parameters and spacecraft atti-		Pressure on silo wallsI	-		
tudeI	13	450; (D) I 457; (AC) I	458	PROFILES	
Prager, W.		Reducing the response of integrally stiff-		Decay of symmetrical laminar distorted	558
Plastic failure of fiber-reinforced mate-		ened structures to random pressures,		profiles between flat parallel platesB	990
rialsAM	542	Methods of I	1203	High-speed noncontacting gas seals, Per- formance characteristics of spiral-	
PRAKASH, SATYA		Shakedown as a guide to the design of		groove and shrouded Rayleigh step pro-	
Laminar flow in an annulus with arbi-		pressure vesselsI		files forL	60
trary time-varying pressure gradient		799; (D) I 806; (AC) I			
and arbitrary initial velocity AM	309	Spherical shell acrylic windows under		PROJECTILES	
PRANDTL-KOLMOGOROV MODEL		short-term pressure loading, Critical		Wave propagation in a finite-length bar	
Prandtl-Kolmogorov model of turbulence		pressure of		with a variable cross section (D)AM	
with the inclusion of second-order		Unsteady pressure differential in a capil- lary-tube gas viscosimeter	171	908; (AC) AM	909
terms, TheB	855	Viscosity-pressure characteristics of liq-		Propagation	
PRASAD, S. N.		uids, Measurement and prediction ofL		Disturbance along a foil, On the velocity	
Instability of a mechanical system induced		451; (D) L 457; (AC) L		of propagation of aAM	
by an impinging fluid jetAM	693	, (2) b 101, (AO) b		or brokesaron or a summinument	
Prasanna, K. V.		PRIMROSE, E. J. F.		Propellants	
Effect of vibration on heat transfer from		General quaternion-operator method of		Earth-storable liquid bipropellants with	
spheres (D)HT	344	spatial kinematic synthesis, Principles of		gaseous reactants, Simulation ofAM	347
PRAUSE, R. H.		a (D)AM	378	Decours ston	
Hunting of railway vehicle on test stand,		Spatial motions I - point paths of mech-		PROPULSION Forced and self-excited oscillations in	
Problems on (D)I	999	anisms with four or fewer linksI		propellant linesB	
	006	103; (AC) I	113	Gear design and laboratory experience —	
PREDEBON, W. J.		Danie C A		marine gas turbine propulsionP	263
Unsteady flow in a tube with prescribed	407	PRINS, C. A.	424	"Physics of Electric Propulsion" (BR)	
dischargeAM	635	Momentum flux in two-phase flowHT	404		655
PRESSURE VESSELS AND TECHNOLOGY		Process Industries		Transit propulsion unit suspension, A new	
Actual popping pressure of a relief valve		Incipient and nucleate boiling of liquid		- proved on Northeast Corridor high-	
with a real helical spring under dynamic	1140	hydrogen		speed test cars	897
Application of primary sealing criteria to	1142	513; (D) I 519, 919; (AC) I 519,		Duranton	
a self energized gasketI		Influence of surface characteristics on the		Pulsation Dispersive pulse propagation in laminated	16
553; (D) (AC) I	561	boiling of cryogenic fluids, The	1217	Dispersive pulse propagation in laminated composites, Experiments on, and com-	
Assessment of the plastic strength of pres-	901	Nucleate boiling with liquid nitrogen, The		parison with theoryAM	
sure vessel nozzles (D)I		inception of	1210	Dispersive pulse propagation parallel to	
522; (AC) 1	524	Pool-boiling heat transfer to liquid helium,		the interfaces of a laminated compos-	
Axisymmetric, nonidentical, flat face		The influence of nuclear radiation on		iteAM	
flanges with metal-to-metal contact be-		501; (D) I 506; (AC) 1	507	Pressure pulse model for two-phase critical	
yond the bolt circleI		Pressure attenuation in long rarefaction		flow and sonic velocity, AHT	
615; (D) I 621; (AC) I	622	wave tubes	497	371; (D) HT 381; (AC) HT	383

Pulsation (Continued)		and emitting media, An approximate		REDDECLIFF, J. M.	
Pulsating flows in infinite and finite conical nozzles, Analysis of	159	method for multidimensional problems		Hydrostatic bearings for cryogenic rocket engine turbopumpsL	557
Pulse propagation in a poroelastic solid	100	ofHT	502	REDDI, M.	
AM	878	Radiative transfer characteristics of materials	1	Incompressible lubrication problem, Finite-	
PUMPED STORAGE. See STORAGE, PUMPED		Temperature transition from linear elastic		element solution of theL	524
PUMPS AND PUMPING		to gross strain fracture conditions, Dy-	***	REDDY, D. M. Product flatness in strip rolling mills,	
Compressor or pump stage for minimum fluctuating lift, The quasi-steady design		namic tear test definition of the	108	Principles of self control ofI	
of aP 31; (D) P 132; (AC) P	133	free convection boundary layer of an		702; (AC) I	709
Helium face seal application in a liquid		absorbing gasHT	37	REFLECTION	
oxygen pump, AL Implantable valveless heart assist pump	668	Ultrasonic nondestructive measurement of irradiation damage in steelB	593	Theoretical polarization of off-specular reflection peaks	997
B 284; (D) B 288; (AC) B	289	RAIL HEADS	000	Refrigeration	
Inward pumping in mechanical face seals		White etching material outlining shell-type		Small cryogenic regenerator performance	
Peristaltic transport (D) (AC)AM		cracks in rail-heads, The cause ofB	549	I	273
Reversible pump-turbine, Index method for	0.0	RAILROAD VEHICLES. See VEHICLES,		REGENERATORS Small cryogenic regenerator performance	
pumping operation ofB	103	RAILROAD		Small cryogenic regenerator performance	273
Thermal transpiration for the develop- ment of a new type of gas pump, A		RAMACHANDRAN, A. Effect of vibration on heat transfer from		Thermal performance of a Stirling-engine	
study ofP	207	spheres	344	regenerator, An approximate solution	109
Water jet pumps, Optimum design ofP	***	RAMAPRIAN, B. R.		for theP	100
62; (D) P 137; (AC) P Purdy, K. R.	140	Prediction of turbulent boundary layer		Advancing boiler steam conditions (D)P	127
Intense acoustic fields and viscous fluid		growth in adverse pressure gradients, A modified entrainment theory for the		External corrosion reactions on surfaces,	
flows, On the interaction ofB	74	выстранция выполняющий выполнающий выполнающий выстичений выполнающий выполнам	649	Radioactive sulfur oxide studies ofP 216; (AC) P	999
PUTNAM, A. A.		RAMKRISHNAN, C. V.		REIMER, R. M.	
Convective heat transfer in a gas-fired	136	Elastic waves in a hollow sphere, Three- dimensional and shell-theory analysis		Effects of orifice plate eccentricity on	
pulsating combustor (D)P	100	of		flow coefficients, Experimental study	
		Part 1: Analytical foundationAM	431	of the (D)B REISS, EDWARD L.	561
And the second		Part 2: Numerical resultsAM	440	One-dimensional impact waves in inhomo-	
The second second second second		RAND, RICHARD H. Stability of a differential equation with		geneous elastic mediaAM	803
190		application to the vibrations of a particle		REISSNER, ERIC	
QUARMBY, ALAN		in the plane, On theAM	311	Finite symmetrical deflections of thin	
Fully developed turbulent flow in the circular tube and parallel plate channel		Stability of Hill's equation with four in- dependent parameters, On the	885	shells of revolution, OnAM	267
AM	124	Stability of the vibrations of two coupled	800	RELAXATION	
QUATERNIONS		particles in the plane, On theAM	417	Computerized relaxation applied to the plane-strain indenterB	816
General quaternion-operator method of		RAO, B. C. SYAMALA		RESEARCH	
spatial kinematic synthesis, Principles of a (D) (AC)AM	378	Shock wave velocity and impact pressure in high-speed liquid-solid impact, On the		"Advances in Materials Research" Vol. 3	
QUILLIAN, R. D., JR.	910	(D)B	134	(BR)AM	911
Why, what, and how: engine varnishL	406	RAO, N. S. LAKSHMANA		RESPONSE	
Quinn, B. E.		Shock wave velocity and impact pressure		Complete response of distributed systems	
Spatial mechanisms, Dynamic character-	000	in high-speed liquid-solid impact, On the (D)B	134	controlled by a finite number of linear feedback loops	1063
OVALE, E. B.	233	Rao, S. S.	204	Dynamic response of an infinite cylindrical	
Oblique-flow headers for heat exchangers,		In-plane flexural vibrations of circular		shell in an acoustic mediumAM	342
a design method forP	304	ringsAM	620	Exact transient response of an elastic half space loaded over a rectangular	
Thermal performance of a Stirling-engine regenerator, An approximate solution		RAPAPORT, I. M. (author) "Dynamics of Elastic Containers Partially		region of its surfaceAM	516
for theP	109	Filled with Liquid (BR)AM	655	Reducing the response of integrally stiff-	
		RAREFACTION		ened structures to random pressures, Methods ofI	1203
		Pressure attenuation in long rarefaction	400	REUSSWIG, FRED W.	
0		RATAY, ROBERT, T.	497	Gibson method of water measurement,	
N		Expected equivalent damping under ran-		Velocity distribution and its effect on	490
P P		dom excitation (D)I	974	the accuracy of the (D)B	400
RABINOWICZ, E. Film thickness and normal load in the		Rausch, P. J.		REVOLUTION Finite symmetrical deflections of thin	
friction of thin films, A theory for the		Effect of heating time on thermally in-	940	shells of revolution, OnAM	267
effects of (D)L	555	duced stress waves, TheAM Shock propagation in a strain-hardening	340	REYNOLDS, H. C.	
RADIATION		materialAM	181	Thermal entry for low Reynolds number	
Differential approximation for spherically symmetric radiative transfer, An evalua-		RAUSCH, W.		turbulent flowB	87
tion of theHT	73	Movement of fuel elements in the core of		REYNOLDS' EQUATION Linearization for numerical solution of the	
Effective slip coefficients for coupled	107	a pebble bed reactor, Investigations on theI	390	Reynolds' equationL	506
conduction-radiation problemsHT Exact solution for the "radiation layer"	165	Ray, J. D.	14111	REYNOLDS NUMBERS	
over a flat plateHT		Nonlinear vibrations of a beam with pinned		Flow around a sphere at high Reynolds	
Heat transfer by conduction and radiation		ends	997	numbers, Experiments on theAM	598
with temperature - dependent thermal conductivityHT	159	REACTORS, BOILING WATER		RHEA, L. G.	
Heat transfer in turbulent pipe flow with		Critical heat flux measurements in a 16- rod simulation of a BWR fuel assembly		Film boiling heat transfer from an oscil- lating sphere	
optically thin radiation HT			362	RHODES, C. A.	
330; (D) HT Infrared radiation transport: exact and		REACTORS, NUCLEAR		Stability of slip flows in parallel heated	
approximate resultsHT		Movement of fuel elements in the core of		passages, On theHT	545
Molybdenum disulfide lubricants in radia-		a pebble bed reactor, Investigations on		RIBNER, H. S.	
ofL 390; (D) (AC) L		Pressure suppression containment design		Response of a structure moving through	
Pool-boiling heat transfer to liquid helium,		— current state of the artP		a random load field, On the (D)	111
The influence of nuclear radiation on		REBA, IMANTS		"Advances in Materials Research," Vol. 3	100
Radiant heat exchange, A rapid iteration		Massive recirculation as a method of mini-		(BR)AM	
method forHT		mizing corrosion in the combustion of residual fuels		RICE, W.	
Radiation incident on a temperature sensor		RECKER, W. W.		Laminar inward flow of an incompressible	
situated in a tube having nonisothermal walls		Dynamic response of an infinite rod to		fluid between rotating disks, with full peripheral admission (AC)AM	
Radiation transfer from a metal to a finely	200	a randomly moving torque, On theAM		Unsteady laminar motion of a Newtonian	
divided particulate mediumHT		RECOMPRESSION		fluid contained between concentric rotat-	
Radiation view factors for a toroid: com- parison of Eckert's technique and direct		Recompression step heat transfer co- efficients for supersonic open cavity		ing cylinders (AC)AM Very small diameter laminar flow orifices,	
computationHT		flow		An investigation of	

RICHARDSON, H. P.		Rops		ROTH, BERNARD	
Unsteady pressure differential in a capil-		Critical heat flux measurements in a 16-		Finitely and infinitesimally separated	
lary-tube gas viscosimeterAM	171	rod simulation of a BWR fuel assembly		position problems of kinematic syn-	
RICHARDSON, M. K.		HT 355; (D) HT 361; (AC) HT	362		203
Interference stresses in a half plane con-		Dynamic response of an infinite rod to a	896	Finitely and infinitesimally separated	
taining an elastic disk of the same		randomly moving torque, On theAM Elastic deformation of a circular rod of	990	position synthesis of binary links and combined link chains, Design equations	
materialAM	128	finite length for an axially symmetric			209
RICHARDSON, P. D.		end face loading, TheAM	241	Rodrigues' formula and the screw matrix	
Near-wake of a circular cylinder in cross-		Heat transfer to mercury flowing in line		(D)I	184
	328	through an unbaffled rod bundle: ex-		Rotors	
Unsteady flow and wake near an oscillat-		perimental study of the effect of rod		Critical speeds of a continuous rotor, On	
	859	displacement on rod-average heat trans-		theI	1180
RICHARDSON, W. S.		fer coefficientsHT	568	Dynamic stability of rotor/stator radial	
Friction clutch reverse-reduction gears for		Rod-drawing, Optimum die angles and		rubs in rotating machinery, The I	1025
the GTS Adm. Wm. M. Callaghan, The		maximum attainable reductions inI 664; (D) I 671; (AC) I	672	High-speed rotors supported by air-	
Р	245	Transient axially symmetric excitation	012	lubricated foil bearings, An experi-	
Ries, J. P.		of a circular elastic rod in plane strain		mental study of Part 1 — Rotation in pressurized and	
Motion of a flat-plate pendulum in a		(D)AM 378; (AC) AM	379	self-acting foil bearings	477
viscous fluid, The 1	100	ROFFMAN, GARY L.		Part 2 - Response to impact and to	
RIGIDITY		Effects of sound on jets and flueric de-		periodic excitationL	494
Permanent compression of a rigidly con-		vices, A discussion of theI	1161	Influence of internal friction on the sta-	
tained granular bed following impact	-1-	Rogers, A.		bility of high speed rotors with aniso-	
	545	Implantable valveless heart assist pump		tropic supports, TheI	1105
Sinusoidal rocking of a rigid rectangular		(D)B	288	Offset unsymmetric gyroscope with ob-	
body on an infinite isotropic elastic	0.40	ROGGE, T. R.		lique rotor using (3 x 3) matrices with	
	648	Unsteady flow in a tube with prescribed		dual-number elements, Analysis of an	542
RINGLEE, R. J.		discharge	635	Stability characteristics of gyroscopes	042
Nonlinear optimal control by use of extra		Rohsenow, W. M.		with hydrodynamic-grooved rotor bear-	
linear states to represent nonlinearities	1 477	Correlation of pool-boiling data, A new —		ingsL	609
(-)	147	including the effect of heating surface		Turborotor instability: effect of initial	
Rings		characteristicsHT	245	transients on plane motionL	
Circular ring of arbitrary section, Three-		Nucleate pool boiling of sodium, The		625; (D) L 630; (AC) L	632
dimensional deformation and buckling of		mechanism of and stability criterion for		ROUGHNESS	
aI	266	HT 315; (AC) HT	329	Resistances to heat and momentum trans-	
Dynamic membrane stress in a circular	000	ROLAMITE		fer in the viscous sublayer at rough	
viscoelastic ring	886	Dynamic response of rolamite, A theoret-		walls, Some correlations forHT	488
pressed ring (D)B		ical and experimental investigation of		ROULEAU, W. T.	
562; (AC) B	563	the 1 235; (D) (AC) I	239	Pressure transients in hydraulic pipelines	
In-plane flexural vibrations of circular	000	Rolamite-geometry and force analysis I		(D)B	460
	620	186; (D) (AC) I	191	Water-hammer attenuation with a tapered	
Shrink buckling of thin circular rings (D)		ROLFE, S. T.		lineB 341; (AC) B	352
	377	Static and dynamic low-temperature K _{Ic}		ROUNDS, FRED G.	
Temperature distributions in solid and		behavior of steelsB	512	Influence of water on fatigue-failure loca-	
hollow cylinders due to a moving circum-		ROLLING MILLS		tion and surface alteration during roll- ing-contact lubrication (D)L	581
	465	Product flatness in strip rolling mills,			001
Wear ring seals for high-speed, high-pres-		Principles of self control ofI		Rowe, G. W.	
sure turbopumps, Evaluation ofL 438; (D) L 448; (AC) L	AKO	702; (D) I 708; (AC) I	709	Rod-drawing, Optimum die angles and	
	450	Roop, L. H.		maximum attainable reductions in (D)	671
RINK, R. E.		Step-thrust gas bearing without feed			011
Control with a multiplicative modeB	007	grooves for two directions of shaft rota-		RUBBER AND PLASTICS	
201; (AC) B	205	tion, Investigation of theL		Bonded elastic mounts under combined	
RIPLING, E. J.		620; (AC) L	624	loading of shear and normal forcesI Electron paramagnetic resonance measure-	
Dynamic fracture toughness of A533 steel		ROSA, RICHARD J. (author)		ments of strain induced ozone cracking	
В	525	"Magnetohydrodynamics Energy Conver-		in rubberB	
ROBERTS, A. W.		sion" (BR)AM	655	Rubbing	
Noncohesive granular materials through		ROSCHKE, E. J.		Dynamic stability of rotor/stator radial	
discharge chutes, An investigation of	0.00	Heat transfer and laminar boundary-layer		rubs in rotating machinery, TheI	
the gravity flow ofI	373	distributions in an internal subsonic gas			
ROBERTS, W. L.		stream at temperatures up to 13,900		RUBEL, A.	
Lubrication review (digest of 1967 litera-		deg RHT	83	Free convection through vertical plane layers — moderate and high Prandtl	
ture):		Rознко, A.		number fluids (D)HT	
Metalworking lubricantsL	235	Real fluid flow over yawed circular cylin-			300
ROBIN, T. T.		ders, On (D)B	132	RUBENFELD, L. A.	
Mass-transfer model in subcooled nucleate	44.5	Ross, E. W., Jr.		Diffraction of horizontal shear waves by a half planeAM	
boilingHT 404; (AC) HT	412	Large deflections of an inflated cylindrical			310
ROBINSON, N. I.		tentAM	845	Rugh, W. J.	
Corner supported plate, Collocation solu-		Rossbach, R. J.		Linear optimal control problems, A new	
tion for aAM	884	Liquid dynamic seal to vacuum, Develop-		approach to the solution ofB	
Rochino, A.		ment of aL			
Incompressible turbulent swirling flow in		Rossettos, J. N.		Ruiz, C.	
stationary ducts, Analytical investiga-		Dynamic response of cylindrical and coni-		Plastic limit pressures of reinforced open-	
yond the bolt circle (D)L	621	cal panels. TheAM		ings in cylindrical shells, Experimental investigation of the	
ROCKING					
Sinusoidal rocking of a rigid rectangular		ROTATION Bending-bending mode of a rotating		RUMBARGER, J. H.	
body on an infinite isotropic elastic	0.40	tapered-twisted turbomachine blade in-		Cylindrical roller bearings having crowned rolling members, The effect of misalign-	
plateAM	648	cluding rotatory inertia and shear de-		ment on the fatigue life of (D)I	
RODABAUGH, E. C.		formation	1017	(editor) Lubrication review: a digest of	
Assessment of the plastic strength of		Heat transfer to a fluid flowing inside		the literature for 1967	
pressures vessel nozzles (AC)	524	pipe rotating about its longitudinal axis		RUNSTADLER, P. W., JR.	
Axisymmetric, nonidentical, flat face		ВГ		Straight channel diffuser performance a	t
flanges with metal-to-metal contact be- yond the bolt circle (D)	621	Laterial vibrations of a rotating shaft in		high inlet Mach numbers	
	021	a viscous fluid		397; (AC) 1	
Rodgers, C.		Step-thrust gas bearing without feed grooves for two directions of shaft rota-		RUPTURE	
Diffuser for high-performance centrif- ugal compressors, A novel low-cost		tion, Investigation of the		Tubular stress-rupture testing of chro	
(D)P	46	620; (D) (AC)		mium-molybdenum steels with high	
		Unsteady heat transfer from a rotating		pressure hydrogen	
Rodgers, W.		disk		RUZICKA, JEROME E.	
Transients in pneumatic networks, Numeri- cal solutions of		Rotem, Zeëv		Electrohydraulic vibration isolation sys	j-
Part 3: Network problems with branch-		Flow of a melted plastic through a screw	v	tems, Theoretical and experimental in	
ing AM	594	extruder Prediction of (D)		vestigation of	I 98

RYLANDER, H. G.		SAWYER, R. F.		SCHUMITZKY, A.	
Melt lubrication of an annular-thrust sur-		Air pollution characteristics of gas turbine		Invariant imbedding and sequential inter-	
face (D)	379	enginesP	290	polating filters for nonlinear processes	700
Stress-concentration factors in shouldered shafts subjected to combinations of flex-		SAXENA, U. K. Transient drilling temperature responses,			200
ure and torsion (AC)I	289	Building a mathematical model to pre-		SCHWARTZ, NEENA B.	
		diet1	641	Rat estrous cycle, A mode for the control of the	201
Professional Company of the Company		SCARLETT, B.			961
		Critical porosity of free flowing solids,	400	SCHWIDERSKI, E. W.	
The second secon		The 478; (AC) I	488	Axisymmetric vortex flow over a flat sur- face, On the	814
SACKMAN, J. L.		SCATTERING Multiple scattering of elastic waves by			014
Approximate solutions in linear, coupled		parallel cylindersAM	523	Screws	
thermoelasticity (AC)AM	373	SCHAETZLE, W. J.		Entrainment patterns of screw hopper dis- chargersI	295
Longitudinal impact on a hollow coneAM	445	Effect of vibration on heat transfer for		Flow of a melted plastic through a screw	
SAFETY, HIGHWAY Optimization of a viscoelastic structure:		flow normal to a cylinderHT	140	extruder, Prediction ofB 479;	
the seat-belt problemAM	565	SCHATZBERG, P.		(D) B 488; (AC) B Rodrigues' formula and the screw matrix	490
SAGARTZ, M. J.		Influence of water on fatigue-failure loca- tion and surface alteration during roll-		I 179; (D) I 184; (AC) I	185
Transient stresses at a clamped support		ing-contact lubricationL 301; (AC) L	583	Screw conveyers and feeders, A study of	
of a circular cylindrical shellAM	367	Scherberg, M. G.		factors affecting the performance of	
SAGAWA, T.		Effect of vortices induced by corona dis-		Spiral-grooved screw seal for turbulent	334
Reduction of noise and vibrations in a hy- draulic turbine	799	charge on free-convection heat transfer	432	operation, Theoretical analysis ofL	675
SAIBEL, E. A. (reviewer)	122	from a vertical plate (D)HT SCHEY, JOHN A.	402	SEALS AND SEALING	
"Standard Handbook of Lubrication En-		Barreling as an example of free deforma-		Application of primary sealing criteria to a	
gineering" (BR)AM	382	tion in plastic workings, A study of		self energized gasket	
St. André, A.		(D)I		(D) (AC) I Behavior of hydrodynamic, noncontacting	561
Prevention of chatter vibration in bor-		Friction and adhesion in deformation proc-		face seals (D)L 216; (AC) L	218
ing operations, Some considerations on	790	essing, Effect of die surface composi- tion onL	351	Bolt spacing for flange sealing, Analysis	
STLOUIS, L.	129	SCHIPMÖLDER, J. B.	001	of	290
Dynamic measurement of absolute track		Optimization of a viscoelastic structure:		Eccentric face seal with a tangentially varying film thickness, TheL	748
propertiesI	855	the seat-belt problemAM	565	Effects of geometry and inertia on surface	.40
SAINT-VENANT'S PRINCIPLE		SCHLACK, A. L., JR.		seal performance, The - turbulent flow	
Astatic equilibrium in Saint - Venant's		Response of a beam subjected to a cyclic moving load, On theI		(D) (AC)	
principle for linear elasticityAM	392	SCHMEISSING, H. N.	920	Helium face seal application in a liquid oxygen pump, A	
SALISBURY, J. KENNETH Optimization of heater design conditions		Product flatness in strip rolling mills, Prin-		Hertzian contact and adhesion of elasto-	Mag
in power plant cyclesP		ciples of self control of I 702; (AC) I		mersL	732
159; (AC) P	171	SCHMIDT, ALFRED O.		High pressure clearance seal, A (D) (AC)	015
SALLET, D. W.		Tools and engineering materials with hard,		High-speed noncontacting gas seals, Per-	
Spacing of Karman vortices, On theAM	370	wear-resistant infusions	549	formance characteristics of spiral-groove	
SALT		SCHMIDT, L. C.	480	and shrouded Rayleigh step profiles	
Salt effects in mucin lubricationL	371	Pressures of silo walls 450; (AC) I SCHMIDT, L. V.	400	forL	60
SALTS, MOLTEN Thermal diffusivities of thermal energy		Unsteady flow and wake near an oscillat-		Inward pumping in mechanical face sealsL 417; (D) L 425; (AC) L	426
storage materials, The determination		ing cylinder, The (D) B 504,		Leakage in mechanical face seals, Meas-	****
of:		SCHMIDT, ROBERT		urements ofL	687
Part 2 — Molten salts beyond the melt-		Finite deflections and snap-through of		Liquid dynamic seal to vacuum, Develop-	
ing pointP	189	high circular arches (D)AM Sidesway buckling of deep circular arches		ment of a	
SANDOR, GEORGE N. Bicycloidal crank — a new four-link mech-		under a concentrated loadAM		Load support and leakage from microas- perity-lubricated face sealsL	
anismI		Strongest circular arch, The - a perturba-		Lubrication review: a digest of the liter-	
General quaternion-operator method of		tion solution (D)AM	908	ature for 1967L	
spatial kinematic synthesis, Principles		SCHMITENDORF, W. E.		Misaligned, eccentric face seal, TheL. Operation and failure of mechanical face	
of a (AC)AM Spatial kinematic synthesis by means of a	. 378	Linear optimal control problems, A new approach to the solution of (D)B		seals, An investigation of theL	
stretch-rotation tensor, On a general		SCHMITZ, G. K.		Positive action seals in Europe (D)L	
method of 1115; (AC) I		Current status of titanium-boron compos-		215; (AC) L	
SANDWICHES		ites for gas turbinesP	297	Process control and testing of elastomers and elastomeric compositions (D) (AC)	
Oscillations of a sandwich sphere, The		SCHNEIDER, R. W.		L	211
SANGER, NELSON L.	307	Axisymmetric, nonidentical, flat face flanges with metal-to-metal contact be-		Reversed flow in face sealsL	427
Water jet pumps, Optimum design of		yond the bolt circle		Self-energized hydrostatic shaft seals, An	
(D)P	140	SCHNETZER, E.		Shaft geometry—a major factor in oil seal	
SANN, ROBERT I.		Liquid dynamic seal to vacuum, Develop-		performance (D) (AC)L	
Forced transverse vibration of a solid vis-		ment of a	738	Shaft surface finish is an important part	
coelastic cylinder bonded to a thin cas-		Schnurr, N. M. Heat transfer to carbon dioxide in the im-		of the sealing system (D)L 212;	
SAPIRO, LEON	827	mediate vicinity of the critical point		(AC) L Spiral-grooved screw seal for turbulent op-	
Straight channel diffuser performance at		н		eration, Theoretical analysis ofL	678
high inlet Mach numbers (D)		Schoeler, E.		Theory of the mechanism of sealing with	
SARKADI-SZABO, ISTVAN		Lubrication review (digest of 1967 liter-		application to face sealsL	
Circular cylindrical shell supported along		ature): Rolling bearingsL	255	Wear ring seals for high-speed, high-pres-	
SAROFIM, A. F.	000	SCHRAUB, F. A.	. 200	sure turbopumps, Evaluation ofL 438;	
Optical constants of soot and their applica-		Critical heat flux measurements in a 16-	112	(D) L 448; (AC) L	450
tion to heat-flux calculationsHT		rod simulation of a BWR fuel assem-		SEAT BELTS	
SARPKAYA, TURGUT		bly (D)HT		Optimization of a viscoelastic structure:	
Confined vortex oscillator, A theoretical		Schrier, H. M.		the seat-belt problemAM	561
and experimental investigation of a Performance characteristics of geometri-		What sound can be expected from a worr		SEBAN, R. A.	
cally similar bistable amplifiers, The		tool?	525	Oscillation of a gas bubble in an infinite	
B 257; (AC) B		Schroeder, R. J. Lubrication review (digest of 1967 liter-		fluid	
SATO, JUN'ITI		ature):		Steam bubble collapse, On some aspects of	
Sliding damage on the (001) surface of		Lubricants and automotive lubricants I	. 244	A STATE OF THE PARTY OF THE STATE OF THE STA	- 50
copper single crystal, Anisotropy ofI. SATURATION	652	SCHUBERT, DALE W.		Seirec, A.	
Fluid-jet amplifier with flat saturation		Electrohydraulic vibration isolation sys-		Hydrodynamic journal bearings, Optimum design ofL 516; (AC) L	
characteristics, A		tems, Theoretical and experimental in			000
SAUER, HARRY J., JR.		vestigation of	1 981	SENATOR, M.	
Heat transfer coefficients and friction fac- tors for longitudinally grooved tuber		SCHULTHEISS, G. F. Incipient boiling superheat in liquid metals	100	Limit cycles and stability of a non-linear two-degree-of-freedom autonomous vi-	
yers for congituatinally grooved tuber		(D)H		bratory system	

SENSITIVITY		Bending-bending mode of a rotating		SHOCK WAVES	
Sensitivity in multivariable control sys-		tapered-twisted turbomachine blade in-		Shock wave velocity and impact pressure	
tems B 246; (D) B 249; (AC) B SENSORS	250	cluding rotatory inertia and shear deformation	1017	in high-speed liquid-solid impact, On the (D) (AC)B	134
Radiation incident on a temperature sensor		Interface shear stress in annular flow con-		SHOEMAKER, A. K.	100
situated in a tube having nonisothermal		densation, On theHT	450	Plane-strain crack toughness values of a	
wallsHT	285	Measurement of wall shear stress by means of an evaporating liquid film, On		structural steel, Factors influencing the	
SERVAES, H.		theHT	191	Static and dynamic low-temperature K _{IC}	506
Performance characteristics of full finite		Transient shear waves in two joined elastic	9	behavior of steelsB	512
journal bearings, The effects of forced- feed lubrication onL	E44	quarter spaces	491	SIBULKIN, M.	
SETHI, P. S.		Initial development ofB	67	Differential approximation for spherically	
Effects of some gaseous environments on		SHEARER, J. L.	•	symmetric radiative transfer, An evalu-	-
the creep of a stainless steel, TheB	575	ASME in the field of automatic control,		ation of theHT	73
SEYFARTH, FRANCIS		Highlights of the role played byB	137	SIEGMUND, C. W. Massive recirculation as a method of mini-	
Shoe-type brake-clutch systems, Generaliz-		SHEERAN, W. J.		mixing corrosion in the combustion of	
ing the analysis of (D)I Shabaik, A. H.	701	Earth-storable liquid bipropellants with		residual fuels (D)P	205
Axisymmetric extrusion with experiment,		gaseous reactants, Simulation ofAM	347	SIKARSKIE, DAVID L.	
Comparison of two complete solutions		SHELLS		Periodic motions of a two-body system	001
in an	543	Approximate roots of Flügge's character-		subjected to repetitive impactI	931
Eutectic alloy of Pb and Sn, Some extru-	600	shell	352	Failures of reinforced concrete grain silos	
sion studies of theI	680	Buckling of composite and homogeneous	002	I 460; (D) (AC) I	476
Temperatures associated with bubbles in		isotropic cylindrical shells under axial	50.5	Pressures on silo walls 450;	
subcooled pool boiling, Measurement of		and radial loadingAM	791	(D) I 457; (AC) I	458
HT	123	Buckling of cylindrical shells with axial surface tractions	350	Silo loads in measuring models, Investiga- tion ofI	365
SHAFFER, BERNARD W.		Circular cylindrical shell supported along	500	SILVERSTEIN, C. C.	
Forced transverse vibration of a solid vis-		a generatorAM	888	Permanent compression of a rigidly con-	
coelastic cylinder bonded to a thin casing	827	Dynamic response of an infinite cylindrical		tained granular bed following impact	
SHAFFER, D. H.	021	shell in an acoustic medium	342	with a rigid bodyAM	545
Engineering analysis of experimental data		buckling of cylindrical shells, TheAM	28	Simonson, E. R.	
(D)P	130	Eigenvibrations of barrel-shaped thin	-	Electron paramagnetic resonance meas- urements of strain induced ozone crack-	
Shafts		shellsAM	629	ing in rubberB	587
Lateral vibrations of a rotating shaft in a		Elastic behavior of two normally intersect-	Eag	SIMULATION	
viscous fluidAM	682	ing cylindrical shells I Elastic postbuckling behavior of stiffened	563	Investigation of face-milling tool temper-	
Self-energized hydrostatic shaft seals, An analysis ofL	658	and barreled cylindrical shells	784	atures by simulation techniques I 772;	-
Shaft geometry-a major factor in oil seal	000	Excitation of an elastic cylindrical shell by		(D) 1 779; (AC) I	780
performance (D) (AC)L	210	a transient acoustic waveAM	459	Sinclair, G. M. Environmentally assisted fatigue crack	
Shaft surface finish is an important part		Finite symmetrical deflections of thin	267	growth rates in SAE 4340 steelB	598
of the sealing system (D)L 212; (AC) L	214	shells of revolution, OnAM Free vibrations of reinforced elastic shells	201	SINGER, RALPH M.	
Step-thrust gas bearing without feed	214	AM	835	Incipient boiling superheat in liquid metals	
grooves for two directions of shaft ro-		High-frequency response of an elastic		(Ď)HT 199,	200
tation, Investigation of theL 620;		spherical shellAM	859	SIPENHOV, L. E.	
(D) (AC) L Stress-concentration factors in shouldered	624	Instability in an elastic-plastic cylindrical shell under axial compressionAM 47;		Externally pressurized gas-lubricated bear- ings, Method of theoretical investigation	
shafts subjected to combinations of flex-		(D) (AC) AM	909	of	
ure and torsion (D) (AC)I	289	Limit analysis of short cylindrical shells,		Sisson, T. R.	
Sнан, А. H.		An experimental verification ofAM	362	Low speed chatter effects, An explana-	
Elastic waves in a hollow sphere, Three-		Nonlinear response of a cylindrical shell to an impulsive pressureAM	277	tion ofI	
dimensional and shell-theory analysis of		Nonlinear vibrations of shallow spherical	211	SKREINER, M.	
Part 1: Analytical foundationAM	431	shellsAM	451	Acceleration axes and acceleration distri-	
Part 2: Numerical resultsAM	440	Plastic limit pressures of reinforced open-		bution in spatial motion (D)I	
Normal vibrations of a rectangular plate	***	ings in cylindrical shells, Experimental investigation of the		Skew four-bar mechanisms, Type determi- nation of (D)	
with attached massesAM SHAH, R. P.	130	(D) I 715; (AC) I	716		
Small-amplitude frequency behavior of		Side-force problem for shallow helicoidal		SLABS Contact stress analysis for a round body	
fluid lines with turbulent flowB	678	shells, TheAM	292	indenting a linearly viscoelastic slab, by	
SHAI, I.		Stresses around an elliptic hole in a cylin-	39	point matchingAM	626
Nucleate pool boiling of sodium, The		drical shell	09	Heat-conduction problems with melting or	700
mechanism of and stability criterion for	200	AM	384	freezing	426
НТ 315; (АС) НТ	329	"Theory of Thin Shells" (literature avail-		basis of elastic modelAM	763
SHAMROTH, S. J. Integral methods for predicting shear lay-		Transient stresses at a clamped support of	911	SLIDING	
er behavior, OnAM	673	a circular cylindrical shellAM	367	Sliding damage on the (001) surface of	1
SHANNON, R. L.		Vibration of axially excited circular cylin-		copper single crystal, Anisotropy of	
Forced laminar flow convection in a hori-		drical shells containing fluid, Experi-	****	Temperature transients at sliding inter-	652
zontal tube with variable viscosity and		Vibration of ring-stiffened and mass-		face, OnL	
free-convection effectsHT	251	attached hemispherical shellsAM		SLIP	
Shapiro, A. H.		SHEN, C. N.		Concentrated contacts for minimum micro-	
Peristaltic transport (D)AM	379	Multiplier rule for a functional subject to		slips, Geometric optimization ofL	360
SHAPIRO, WILBUR		certain integrodifferential constraints, A		Effective slip coefficients for coupled con-	
Behavior of hydrodynamic, noncontacting		8-14-14 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		duction-radiation problemsHT Slip flow in the entrance of a tube	165 3 545
face seals (D)		Switching analysis for constrained bilinear distributed parameter system with ap-		Small-strain plasticity theory for planar	
Steady-state and dynamic analyses of		plicationsB		slip materials, AAM	1 15
L 171; (AC) L	180	SHINAGAWA, HIDEO		Stability of slip flows in parallel heated	d
Incompressible hybrid journal bearing with		Double-notch creep rupture of 5 Cr-0.5 Mo		passages, On theH7	F 549
cavitation, A numerical solution for the		steels		SLITS	
SHARMA, G. K.		SHIRALKAR, B. S.		Free molecule flow through slit and an- nular orifices in the presence of partici	-
Combined free and forced convection heat		Deterioration in heat transfer to fluids at		pating bounding wallsAN	
transfer from a heated tube to a trans-		supercritical pressure and high heat fluxes		SLOT, T.	77.1
verse air streamHT		SHOCK	21	Stress and strain redistribution in	
SHARPE, W. N., JR.		Optimization techniques for shock and vi-		notched plate specimen during cycli	ie
Gage length errors in plastic-strain wave		bration isolation, Comparative study		loading, Note on	B 379
measurementAM	870	of	1128	Symmetric, U-shaped notches in tension strips, A note on stress-concentration	
SHEAR		Thermal shock on a finite disk due to ar		factors forAl	W 882
Ablation of shear thinning and shear thick- ening liquids, Surface temperature and		instantaneous point heat sourceAM "Vibration and Shock in Damped Me		SLOTS	
heat transfer conditions in theHT		chanical Systems" (BR)AM		Gravity flows of ideally plastic material	s

SMALL, D. A.		SOLAR ENERGY		SPACE TECHNOLOGY	
Response of a fluidic air gaugeB	475	Photovoltaic power technology, Status of		Photovoltaic power technology, Status of	
SMALL, N. C.		P 1; (D) (AC) P	131	P 1; (D) (AC) P	131
Built-in ends of beams and plates, Local		Solar array performance as a function of		SPACECRAFT	
flexibility coefficients for the (D)I	613	orbital parameters and spacecraft at-	**	Solar array performance as a function of	
SMALLEY, A. J.		SOLER, A. I.	13	orbital parameters and spacecraft atti-	
Gas-lubricated spiral-grooved spool bearing		Higher-order theories for structural analy-		tude	13
for motion in the axial direction, Static	101	sis using Legendre polynomial expan-		SPACES AND SPACING	
and dynamic characteristics of theL	104	sionsAM	757	Exact transient response of an elastic half	
SMIDT, D.		SOLIDIFICATION		space loaded over a rectangular region	516
Incipient boiling superheat in liquid metals (D)	100	Effect of liquid solidification in a parallel		of its surface	
	198	plate channel upon laminar-flow heat		Transient excitation of an elastic half	
SMITH, ARVIN		transfer and pressure dropHT	583	space by a point load traveling on the	1
Photovoltaic power technology, Status		Thermal stresses during solidification on basis of elastic model	763	surfaceAM	505
ofP 1; (AC) P	131	Solids	100	Transient shear waves in two joined clas-	
SMITH, C. W.		Adhesion and agglomeration of solids dur-		tic quarter spacesAM	491
Flow of a melted plastic through a screw extruder, Prediction of B 479; (AC) B	460	ing storage, flow, and handling-a sur-		Sparrow, E. M.	
Fracture criteria for combined extension	490	vey 435; (D) I	448	Binary, gravity-flow film condensation	
and bending, An experimental investiga-		Critical porosity of free flowing solids, The		»»»«««««««««««««««««««««««««««««««««««	205
tion ofB	841	I 478; (D) (AC) I	488	Flow in the hydrodynamic entrance region of ducts of arbitrary cross sectionHT	345
SMITH, J. L., JR.		Entrainment patterns of screw hopper dis- chargersI	295	Free molecule flow through slit and an-	040
Nucleate boiling with liquid nitrogen, The		Flow of bulk solids, Limit plasticity ap-	200	nular orifices in the presence of partici-	
inception ofI	1210	proach to some cases ofI	357	pating bounding wallsAM	715
Pool-boiling heat transfer to liquid helium,		Flow of dry bulk solids on bin walls		Non-Darcy flow through fibrous porous	
The influence of nuclear radiation on		I 489; (D) I	492	mediaAM	711
Thermal performance of a Stirling-engine	507	Forced transverse vibration of a solid vis-		Radiation incident on a temperature sen-	
regenerator, An approximate solution		coelastic cylinder bonded to a thin cas-	007	sor situated in a tube having noniso- thermal walls	285
for theP	109	Gas solids suspension convective heat	827	Two-component stratified flow in a hori-	
SMITH, P. C.	200	transfer at a Reynolds number of 130,-		zontal duct, Experiments onHT	51
Three-dimensional boundary-layer flow		000 (D)HT	203		
about an ablating slender coneB	632	Granular solid discharged from a bin, Air		SPEED On sentiment rates On	
SMITH, P. J.		pressure in the bulk ofI	382	Critical speeds of a continuous rotor, On the	1180
Circular fins of triangular profile, Effi-		Nonlinear viscoelastic solid in uniaxial		High-speed hydrodynamics, Problems inI	1
ciency ofHT	181	tension, An experimental study of a	EEO	Control of the Contro	
SMITH, R. V.		Nonmechanical solids flow control device	558	SPHERES	
Incipient and nucleate boiling of liquid		in the waste calcining facility, Experi-		Contact stress analysis for a round body indenting a linearly viscoelastic slab, by	
hydrogen (D)I	919	ence withI	385	point matching	626
Influence of surface characteristics on the		Particulate suspensions, similarity in gas-		Differential approximation for spherically	
boiling of cryogenic fluids, TheI	1217	borne flowingI	303	symmetric radiative transfer, An evalua-	
Pool-boiling heat transfer to liquid helium,		Pulse propagation in a poroelastic solid	. 070	tion of theHT	73
The influence of nuclear radiation on	***	Rate of flow of solids, Effect of injected	878	Effect of vibration on heat transfer from	044
Pressure pulse model for two-phase critical	506	air on theI	335	spheresHT 337; (D) (AC) HT	344
flow and sonic velocity, A (D)HT	383	Shock wave velocity and impact pressure	000	Elastic waves in a hollow sphere, Three- dimensional and shell-theory analysis	
SNECK, H. J.	500	in high-speed liquid-solid impact, On the		Part 1: Analytical foundationAM	431
		(D) (AC)B	134	Part 2: Numerical resultsAM	440
Eccentric face seal with a tangentially varying film thickness, TheL	740	Storage, flow, and handling of solids,		Film boiling heat transfer from an oscillat-	
Effects of geometry and inertia on surface	140	Opening remarks at the ASME sympo-	000	ing sphereHT 267;	
seal performance, The - turbulent flow		"The Physics of Large Deformation of	293	(D) HT 271; (AC) HT	272
(AC)L	214	Crystalline Solids" (BR)AM	384	Flow around a sphere at high Reynolds	598
Gas-lubricated porous bearings, A survey		"Theory of Perfectly Plastic Solids"	004	numbers, Experiments on theAM High-frequency response of an elastic	990
of (AC)	224	(literature available)AM	384	spherical shell	859
Misaligned, eccentric face seal, TheL	695	Transport processes in magnetosolidme-		In eraction of a plane wave with a spher-	
Reversed flow in face sealsL Thermal effects in face sealsL	427	chanics-adiabatic conditionsAM	107	ical cavity. TheAM	644
	434	Solomon, J. L.		Motion of a spherical pendulum, A simple	
SNEDIKER, D. K.		Anisotropic plate steel, Neck-and-split ten-	00	description of theAM	408
Contact conformity effects on spinning torque and friction (D)L	202	sile fracture	39	Nonlinear vibrations of shallow spherical	451
SNIDER, A. D.	585	Somerscales, E. F. C.		Shells	***
		Free convection through vertical plane lay- ers — moderate and high Prandtl num-		AM	307
Linearization for numerical solution of the Reynolds' equationL	Koa	ber fluids (D)HT	402	Spherical shell acrylic windows under	
SNOEYS, R.	000	Sommers, R. D.		short-term pressure loading, Critical	
		Radiation view factors for a toroid: com-		pressure of 1 573; (D) I	584
Chatter vibrations, The modulation of (D)	679	parison of Eckert's technique, and direct		Thermal transients in plane walls, cylin-	
Snowdon, J. C. (author)	010	computationHT	459	ders, and spheres, Effects of container	67
"Vibration and Shock in Damped Me-		SONI, A. H.		capacitance on	-
chanical Systems" (BR)AM	383	Roberts' cognates space four-bar mecha-		sphere subjected to time-dependent sur-	
SNYDER, N. W.		nisms with two general constraints	100	face heat flux and internal heat source	
Mass-transfer model in subcooled nucleate		Spatial five-link mechanisms using (3 x 3)	128	НТ	45
boiling	412	matrices with dual-number elements,		Vibration of ring-stiffened and mass-at-	910
SODA, NORIMUNE		Displacement analysis of (D)I	921	tached hemispherical shellsAM	318
Sliding damage on the (001) surface of		Sonics		Vibration of the hollow sphere in an acoustic medium	330
copper single crystal, Anisotropy ofL	652	What sound can be expected from a worn			
Sodium	100	tool?1	525	SPINNING	
Nucleate pool boiling of sodium, The		Sood, N. S.		Contact conformity effects on spinning	
mechanism of and stability criterion for		Resistances to heat and momentum trans-		torque and frictionL 308; (D) L 584; (AC) L	586
	329	fer in the viscous sublayer at rough walls, Some correlations forHT	488		4
Soechting, J. F.		The state of the s	100	SPRAGUE, C. H.	
Bounding principle in the theory of work-	PR.	Onticel constants of soot and their applies		Piecewise continuous expansions in the	
hardening plasticity, AAM	228	Optical constants of soot and their applica- tion to heat-flux calculationsHT	100	identification of nonlinear systems, The use ofB	179
SOIFER, M. T.			100		
Linearization of the prebuckling state and		Sorensen, Arthur, Jr.		SPRENKLE, R. E.	
its effect on the determined instability	-	Fatigue damage accumulation, A general theory ofB	1	Effects of orifice plate eccentricity on flow	
loads, TheAM	775	Sovran, Gino	•	coefficients, Experimental study of the	561
Sokoloff, L.		Straight channel diffuser performance at			001
Lubrication of animal joints (D)L	340	high inlet Mach numbers (D)B	414	SPRINGS, HELICAL	
Sokolov, M.		Sowerby, R.		Actual popping pressure of a relief valve	
Velocity and droplets concentration in two-		Elastic-plastic stress distribution in a com-		with a real helical spring under dynamic	1140
phase flows, Measurements ofAM	334	pressed ring (D)B	562	Transfer functions for helical springsI	
		, , , , , , , , , , , , , , , , , , , ,		Transfer and the mental springs and	

Sreenivasan, K.		Hydrogen damage in carbon steel, Some		STRATFORD, BRIAN	
Thermal diffusivities of thermal energy		factors controlling	72	Vibration amplitudes of compressor blades	
storage materials, The determination of:		Mechanical strength of austenitic steel in 1200 F sodium, air, and helium, A		resulting from scatter in blade natural	107
Part 2-Molten salts beyond the melt-		limited comparison of theB	785	frequencies (D)P	101
ing pointP	189	Neck-and-split tensile fracture of aniso-		STREET, P. J.	
SRIDHAR, R.		tropic plate steel	39	Advancing boiler steam conditions P 121; (AC) P	128
Invariant imbedding and sequential inter-		combined stressesL 282;			100
polating filters for nonlinear processes	200	(D) L 290; (AC) L	293	STRENGTH OF MATERIALS	
B 195; (AC) B	200	Plane-strain crack toughness values of a		Mechanical strength of austenitic steel in 1200 F sodium, air, and helium, A	
SRINIVASAN, A. V. Gyroscopic systems as vibration absorb-		structural steel, Factors influencing the	506	limited comparison of theB	785
ers	1156	Pool boiling heat transfer from teflon-	500		
Parallel damped dynamic vibration absorb-		coated stainless steelHT 364;		STRESSES AND STRAINS. See also FRACTURE	
ers, Analysis ofI	282	(D) HT 369; (AC) HT	370	Alloy steel dynamic strain-aging and notch brittle fractureB	44
STABILITY		Static and dynamic low-temperature K _{Ic} behavior of steels	512	Axisymmetric plane stress problems in ani-	
Dynamic stability of rotor/stator radial rubs in rotating machinery, The	1095	Temperature transition from linear elastic	012	sotropic plasticityAM	7
Dynamic stability of a vibrating hammer	1020	to gross strain fracture conditions, Dy-		Axisymmetric stress field around spher-	
I	1175	namic tear test definition of theB	108	oidal inclusions and cavities in a trans- versely isotropic material (D)AM	652
Impact system connected with rock drill-	740	Tubular stress-rupture testing of chro- mium-molybdenum steels with high-		Behavior of nonlinear viscoelastic material	002
ing, Dynamic stability of anAM Influence of internal friction on the stabil-	743	pressure hydrogenB	590	under simultaneous stress relaxation in	
ity of high speed rotors with anisotropic		Ultrasonic nondestructive measurement of		tension and creep in torsionAM	22
supporters, TheI	1105	irradiation damage in steelB	593	Bent submarine cables, Axial stresses in armor wires of	
Lateral stability of road and rail trailers	1060	Very-short-time, very-high-temperature creep rupture of type 347 stainless steel		(D) I 691; (AC) I	693
Limit cycles and stability of a non-linear	1009	and correlation of dataB	32	Biaxial residual surface stresses from	
two-degree-of-freedom autonomous vi-		Yielding and flow characteristics of low-		grinding and finish machining 304 stain-	
bratory systemI	959	carbon steel between ambient and liquid	603	less steel determined by a new dissection techniqueB	15
Second order linear periodic system, The stability of a	210	nitrogen temperaturesB	000	Computerized relaxation applied to the	
Stability characteristics of gyroscopes with	210	STEELE, C. R.		plane-strain indenterB	816
hydrodynamic-grooved rotor bearings L	609	Timoshenko beam with a moving load, The (AC)AM	653	Contact stress analysis for a round body	
Stability of a differential equation with		STEPANYANTS, L. G.	000	indenting a linearly viscoelastic slab, by	626
application to the vibrations of a par- ticle in the plane, On the	311	Externally pressurized gas-lubricated		Contact stress between two-dimensional	
Stability of clamped skew plates under	011	bearings, Method of theoretical inves-		finite elastic bodiesAM	397
combined loadsAM	139	tigation ofL	166	Determination of stress, strain, strain-rate	
Stability of continuous dynamic systems	010	STEVENS, K. K.		relations from dynamic beam tests, On the	632
with parametric excitation	212	Transverse vibration of a viscoelastic col-		Dynamic membrane stress in a circular	
dependent parameters, On theAM	885	umn with initial curvature under peri-		viscoelastic ringAM	
Stability of slip flows in parallel heated		odic axial loadAM	814	Edge-bonded dissimilar orthogonal elastic	
passages, On theHT	549	Stevenson, C. H.		wedges under normal and shear loading (D)AM 650; (AC) AM	652
Stability of the vibrations of two coupled particles in the plane, On the	417	Lubrication review (digest of 1967 litera-		Effect of heating time on thermally in-	
STACHIEWICZ, J. W.		ture): Compressible fluid-film lubrication and		duced stress waves, TheAM	
Variation of local film coefficients of fin		bearingsL	233	Effects of couple stresses in fluids on	
performance, Effect ofHT	21	STEVERDING, B.		heat transfer, On some	
Stachiw, J. D.		Ablation of shear thinning and shear		separable stress fieldsAM	
Spherical shell acrylic windows under		thickening liquids, Surface temperature		Elastic-plastic stress distribution in a	
short-term pressure loading, Critical	870	and heat transfer conditions in theHT	105	compressed ring (D)B 562; (AC) B Electron paramagnetic resonance measure-	
pressure ofI	910	STEWART, E. E.		ments of strain induced ozone cracking	
STANLEY, R. H. Gibson method of water measurement, Ve-		Transfer functions for helical springsI	1011	in rubberB	
locity distribution and its effect on the		STICHA, E. A.		End effect bending stresses in cables AM	750
accuracy of the (D)B	441	Tubular stress-rupture testing of chro-		Fatigue crack Part 1—Discrete dislocation model of a	
STARKMAN, E. S.		mium-molybdenum steels with high-		fatigue crack under shear loadingAM	
Air pollution characteristics of gas turbine		pressure hydrogenB	590	Part 2-Mean stress effect on the shear	
enginesP	290	STIFFNESS		fatigue crack modelAM	
STATISTICS		Dynamic stiffness of controlled hydrostatic bearings, TheL		Gage length errors in plastic-strain wave measurement	
Statistical estimation and elimination of thermal network model errorsHT		Natural frequencies for a system of equal		Green's function for the stress-intensity	
	354	inertias and equal spring stiffnesses, On		factors of edge cracks and its applica-	
STATORS Dynamic stability of rotor/stator radial		evaluation ofAM		tion to thermal stresses, AB Hertzian contact-stress deformation coef-	
rubs in rotating machinery, TheI		Reducing the response of integrally stiff- ened structures to random pressures,		ficientsAM	
STEAM		Methods of	1203	Increase of bearing loads due to large nor-	
Advancing boiler steam conditions P 121;		STOKES, VIJAY, K.		mal stress differences in viscoelastic	
(D) P 127; (AC) P	128	Effects of couple stresses in fluids on		In-process control of residual stress in	
Steam bubble collapse, On some aspects		heat transfer, On someHT	182	drawn tubing	
of		STONER, M. A.		Instability of a thick nonhomogeneous	
P 113; (D) P		Unsteady flows in natural gas piping sys-		elastic layer under high initial stress	
STEEL		tems, Analysis and control of B 331;		Interface shear stress in annular flow con-	
Alloy steel dynamic strain-aging and notch		(AC) E	339	densation, On theHT	
brittle fractureB		STORAGE		Interference stresses in a half plane con-	
Biaxial residual surface stresses from		Adhesion and agglomeration of solids dur- ing storage, flow, and handling—a sur-		taining an elastic disk of the same	
grinding and finish machining 304 stain- less steel determined by a new dissection		vey 435; (D) 1		material	
techniqueB		Earth-storable liquid bipropellants with		cular bar loaded suddenly by a radially	7
Corrosion-fatigue crack propagation stud-		gaseous reactions, Simulation ofAM		distributed end stressAM	
ies of some new high-strength structural		Plastic storage tanks, Analysis and de- sign of 400; (D) I 404; (AC) I		Low-cycle fatigue behavior under biaxia strain distributionE	
Corrosion of carbon steel tubed feedwater		Storage, flow, and handling of solids,		Measurement of wall shear stress by means	
heaters, Effect of water chemistry and		Opening remarks at the ASME sympo-		of an evaporating liquid film, On the	e
design onP		sium on	293	Wilder street in a lang hallow was	
Double-notch creep rupture of 5 Cr -0.5 Mo steelsB		STORAGE, PUMPED		Moisture stresses in a long hollow wood pole of constant outer and inner radius	
Dynamic fracture toughness of A533 steel		Yards Creek pumped storage project, Ex-		in a state of plane strainAM	
В	525	periences on startup and trial operation at	396	Plane strain in plasticity, The application	1
Effects of some gaseous environments on		STORY, R. W.		of an orthogonal net of circles to the	
the creep of a stainless steel, TheB Environmentally assisted fatigue crack		Profile measurement of coated abrasive		Plane waves due to combined compressive	
growth rates in SAE 4340 steelB		surfaces		and shear stresses in a half spaceAM	

STRESSES AND STRAINS (Continued)		sis using Legendre polynomial expan- sionsAM	757	Sliding damage on the (001) surface of copper single crystal, Anisotropy of	
	655	STRUCTURES		Surface microcracks in fatigue, The	652
Residual stresses in autofrettaged cylin- ders, Investigation of the relaxation of		"An Introduction to Structural Optimiza- tion" (literature available)AM	911	growth ofB	770
Rough surfaces and flats, The area of con-	63	Dynamics of beam-type periodic structures	1122	Transient excitation of an elastic half space by a point load traveling on the	
tact between (AC)L	224	Reducing the response of integrally stiff-	2200	surfaceAM	505
Shock propagation in a strain-hardening material	181	ened structures to random pressures, Methods of	1203	Surgery Corrosion fatigue in surgical implantsB	581
local yielding on theB	852	random load field, On the 1114;		Suspension Systems Particulate suspensions, Similarity in gas-	
Stress and strain redistribution in a notched plate specimen during cyclic		(D) I 1117; (AC) I "Theory of Inelastic Structures" (BR)	1118	borne flowingI	303
loading, Note on	379	AM	383	Transit propulsion unit suspension, A new	101
strip, On (D) (AC)AM	654	Sucec, J. Circular fins of triangular profile, Effi-		speed test carsI	897
Stress-concentration factors in shouldered shafts subjected to combinations of		ciency ofHT	181	SUTHERLAND, R. A. Yards Creek pumped storage project, Ex-	
flexure and torsion (D) (AC)I	289	SUCTION Effect of a suction upon laminar flow		periences on startup and trial operation	395
Stress concentrations due to semi-circular grooves and a circular hole in a tension		along a vertical wallAM	877	at (D)B Svensson, N. L.	
bar, Photoelastic comparison ofAM Stress-corrosion-cracking characterization	892	Unsteady free-convection laminar flow past a porous wall with time-dependent		Stress-concentration factors in shouldered	
procedures and interpretations to failure		suctionAM	327	shafts subjected to combinations of flexure and torsion (D)	289
—safe use of titanium alloysB Stress corrosion testing of 7079-T6 alumi-	614	SUEZAWA, YOSHITADA Double-notch creep rupture of 5 Cr- 0.5		SWARDEN, M. C.	
num alloy in seawater using smooth and precracked specimensB	565	Mo steelsB	49	Aerodynamic drag on vehicles in tunnels	694
Stresses around an elliptic hole in a cylin-		Suh, Chung Ha Duality in the existence of R-R links for		Sway	-
drical shell	39	three positions, On theI	129	Sidesway buckling of deep circular arches	325
with imperfect bonding	865	SUKHATME, S. P. Combined free and forced convection heat		under a concentrated loadAM	020
beams subjected to gravityAM	323	transfer from a heated tube to a trans-		SWEARINGEN, T. B. Thermal entry for low Reynolds number	
"Stresses in Shells" (literature available)	384	verse air streamHT	457	turbulent flowB	87
Stresses in wedges of cohesionless ma-	004	SULFATES (Alkali Iron Trisulfates) Alkali iron trisulfate formation within de-		Swed, R. J. Yards Creek pumped storage project, Ex-	
terials formed by free discharge at the apex	345	posits in an oil-fired laboratory com- bustorP 173; (D) (AC) P	180	periences on startup and trial operation	
Strongest circular arch, The—a perturba- tion solution (D) (AC)AM	908	External corrosion reactions on surfaces,	100	atB 387; (AC) B	396
Symmetric U-shaped notches in tension	900	Radioactive sulfur oxide studies ofP 216; (D) P 220; (AC) P	222	Swenson, D. O. Fatigue crack	
strips, A note on stress-concentration factors forAM	882	SULLIVAN, J. J.		Part 1—Discrete dislocation model of a fatigue crack under shear loadingAM	723
Syntactic foams, The static strength of	551	Track quality index, Development and use of a 861; (AC) I		Part 2-Mean stress effect on the shear	
"The Physics of Large Deformation of	991	Sundararajan, V.		fatigue crack modelAM	731
Crystalline Solids" (BR)AM Thermal stresses during solidification on	384	In-plane flexural vibrations of circular rings		SWIECICKI, IGNACY Gibson method of water measurement, Ve-	
basis of elastic modelAM	763	SUNDERLAND, J. E.		locity distribution and its effect on the	448
Thermal stresses in railcar wheels, A three-dimensional finite difference so-		Heat-conduction problems with melting or freezing		accuracy of the (D)B SWIRL	445
lution for theI	891	Surfaces Axisymmetric vortex flow over a flat sur-		Boundary-layer velocity distribution in	
a circular elastic rod in plane strain (D)	970	face, On theAM	614	turbulent swirling pipe flow, TheB Heat transfer and pressure drop in tape-	728
Transient stresses at a clamped support	379	Contact problem of cylinders containing a shallow longitudinal surface depression,		generated swirl flow of single-phase	442
of a circular cylindrical shell	367	On the	852	water	0.10
ing a distributed source and arbitrary	940	contact of rotating circular surfaces, A		generated swirl flowHT Incompressible turbulent swirling flow in	443
time-dependent surroundingsAM Tubular stress-rupture testing of chro-	348	Correlation of pool-boiling data, A new		stationary ducts, Analytical investiga-	121
mium-molybdenum steels with high- pressure hydrogenB	590	-including the effect of heating surface		Progressive waves on swirling cavity flow	151
Wall-thickness changes and the bulk strain	000	characteristics		in a circular pipeB	714
behavior of hollow-drawn tubing, Para- metric influence on theB	792	space loaded over a rectangular region of its surfaceAM		Switching analysis for constrained bilinear	
Wave propagation in a finite-length bar with a variable cross section (D)		Explicit heat conduction equations at	;	distributed parameter system with appli-	
AM 908; (AC) AM	909	thermally insulated surface		Syrove I D	277
Strings Simple waves in an extensible stringAM	893	Radioactive sulfur oxide studies ofP 216; (D) P 220; (AC) P		Symons, J. D. Shaft geometry—a major factor in oil	
STRIPS		Friction and adhesion in deformation proc-		seal performance (AC)L. Shaft surface finish is an important part	
Free, periodic, nonlinear oscillation of an axially moving strip	83	essing, Effect of die surface composition onL 351; (D) L 357; (AC) L		of the sealing system (D)L	
Instability of a thick nonhomogeneous elastic layer under high initial stress		Heat conduction in thin surface layers, An improved theory for		Symposiums. See Meetings	
AM	639	Heated-surface vibration on pool boiling,	,	Systems Engineering	
Semi-infinite strip problem with built-in edges	320	The influence of	•	Analog simulation of a bilinear hysteretic system undergoing random vibrationI	
Stress-concentration factor in a notched strip, On (D) (AC)AM	654	boiling of cryogenic fluids, The		Complete response of distributed systems controlled by a finite number of linear	
Symmetric U-shaped notches in tension	004	tion and surface alteration during roll-		feedback loops	1063
factors forAM	882	ing-contact lubricationL 301; (D) L 581; (AC) I	583	Complex living systems, The organizing principle of	290
STRODTMAN, C. L.		Melt lubrication of an annular-thrust sur- face 374; (D) (AC) L		Equivalent nonlinear system approach to dissipative dynamical systems, Applica-	
Flat disk squeeze-film bearing, Experi- ment and analysis of a-including ef-		Natural convection local heat transfer on	1	tion of anAM	412
fects of supported mass motionL. Spherical squeeze-film gas bearings, Load	138	constant - heat - flux inclined surfaces		Identification of distributed parameter systems using finite differences B 239;	
support ofL	132	Potential vortex flow adjacent to a sta- tionary surface (D)AM 374; (AC) AM		(D) B 244; (AC) F Invariant imbedding and sequential inter-	245
STROWGER, E. B. Gibson method of water measurement, Ve-		Profile measurement of coated abrasive		polating filters for nonlinear processes	1
locity distribution and its effect on the	444	surfacesI 781; (D) I 786; (AC) l Response of an elastic half space to a de-		Linear dynamical systems, Optimization of	
accuracy of the (D)B STRUCTURAL ANALYSIS	441	celerating surface point loadAM Rough surfaces and flats, The area of con-	819	a certain quality of complete controll- ability and observability forB 228;	
Higher-order theories for structural analy-		tact between (AC)		(D) (AC) I	

YSTEMS ENGINEERING (Continued)		TAVENER, G. F.		Optimization of four-bar linkages satis-	
Linear optimal control problems, A new		Gibson method of water measurement,		fying four generalized coplanar posi-	75
approach to the solution ofB 149; (D) (AC) B	15	Velocity distribution and its effect on the accuracy of the (D)B	445	TESTING	
Mean-square response of simple mechani-	10		440	Stochastic testing methods for fluid ampli-	
cal systems to nonstationary random		TAYLOR, C. M.			216
	221	Hydrodynamic journal bearings, Optimum design of (D)	522	TEWKSBURY, E. J.	
Nonlinear optimal control by use of extra			OLL	Viscosity-pressure characteristics of liq-	
linear states to represent nonlinearities	* 48	TEARING		uids, Measurement and prediction ofL	
Optical control of linear distributed	147	Dynamic tear test, Mechnical aspects of	202		458
parameter systems with constrained in-		theB	030	TEXTOR, R. E.	
	161	Teixeira, D. P.		Confined vortex flow, A theoretical and	687
Optimal control problem with unrestricted		Air pollution characteristics of gas turbine		experimental study ofAM	901
final time, On theB	155	enginesP	290	THAILER, H. J. In-plane bending of curved circular tubes	
Optimal state variable feedback with		TEMPERATURE TECHNOLOGY		(AC)	522
bounded gainsB 251; (D) (AC) B	256	Heat transfer of thin fins with stochastic		THAU, F. E.	
Optimizing linear vibration isolator sys-		root temperatureHT	129	Optimum filtering for a class of linear	
tems subject to random input, A new criterion forI 1	MAE	Internal flow heat transfer for poly-			173
Optimum filtering for a class of linear dis-	1000	nomial wall temperature distributions,	100	THEIMER, O. F.	
	173	An expression forHT Lubrication problems with temperature and	175	Failures of reinforced concrete grain silos	
Periodic motions of a two-body system sub-		elasticity effects, Method for solution		I 460; (AC) I	476
	931	of:		THERMAL STRESSES	
Piecewise continuous expansions in the		Application to sector, tilting-pad bear-		Transient temperature and thermal	
identification of nonlinear systems, The	170	ingsL	634	stresses in skin of hypersonic vehicle	
Response of linear systems to magnitude	179	One-dimensional heat-conduction problems		with variable boundary conditions (D)	404
	991	with nonlinear boundary conditions, The		НТ	464
Second order linear periodic system, The	001	transient temperature distribution in	77	THERMOCOUPLES	
	210	Radiation incident on a temperature sensor	••	Variables affecting the dynamic response	
Self-sustained two-degrees-of-freedom sys-		situated in a tube having nonisothermal		of thermocouples attached to thin-	166
tem with nonlinear damping, Response		walls	285	skinned modelsHT	100
and stability of aI 1	1047	Snap-through buckling of a viscoelastic		THERMODYNAMICS	***
Stability of continuous dynamic systems	010	Von Mises truss in a random tempera-		"Thermodynamics" (BR)AM	382
	212	ture fieldAM	338	Transport processes in magnetosolidme-	107
Switching analysis for constrained bilinear distributed parameter system with appli-		Static and dynamic low-temperature K _{Ie}	***	chanics-adiabatic conditionsAM	101
cationsB	277	behavior of steels	512	THERMOELASTICITY	
		Temperature development in the entrance region of an MHD channel, The solu-		Approximate solutions in linear, coupled	373
SZEKELY, I.		tion of, by the B. G. Galerkin method		thermoelasticity (D) (AC)AM "Thermoelasticity" (BR)AM	142
Spatial mechanisms with several degrees		HT	212	Thermostat for precise temperature con-	145
of mobility by means of transmission functions, A kinematic investigation of		Temperature distributions in solid and		trol from -190 to +650 CB	168
	225	hollow cylinders due to a moving circum-		THOMPSON, R. A.	
•		ferential ring heat sourceHT	465	Chatter vibrations, The modulation of	
		Temperature transients at sliding inter-		673; (AC) I	679
		face, OnL	397		
		Temperatures associated with bubbles in		Thomsen, E. G. Axisymmetric extrusion with experiment,	
		subcooled pool boiling, Measurement ofHT	123	Comparison of two complete solutions in	
T		Thermal instability in fluid layers in the	140	anI	
		presence of horizontal and vertical		Eutectic alloy of Pb and Sn, Some extru-	
				sion studies of theI	
		temperature gradientsAM			
Tack C E		temperature gradientsAM 121; (D) (AC) AM	906	Plastic tensile instability criteria, On the	
TACK, C. E. Wheel will adheries (D)	021	121; (D) (AC) AM Thermostat for precise temperature con-		Plastic tensile instability criteria, On the	663
Wheel-rail adhesion (D)I	851	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 CB		THORLEY, A. R. D.	
Wheel-rail adhesion (D)I TAITEL, YEHUDA	851	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C		659; (AC) I	
Wheel-rail adhesion (D)I TAITEL, YEHUDA Exact solution for the "radiation layer"		121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168	THORLEY, A. R. D.	
Wheel-rail adhesion (D)I TAITEL, YEHUDA		Thermostat for precise temperature control from -190 to +650 C	168 641	THORLEY, A. R. D. Pressure transients in hydraulic pipelines	
Wheel-rail adhesion (D)		121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B	460
Wheel-rail adhesion (D)I TAITEL, YEHUDA Exact solution for the "radiation layer" over a flat plateHT		Thermostat for precise temperature control from -190 to +650 C	168 641	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Predic-	460
Wheel-rail adhesion (D)	188	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap	460
Wheel-rail adhesion (D)	188	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Predic-	460
Wheel-rail adhesion (D)	188	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw	460
Wheel-rail adhesion (D)	188	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L.	460
Wheel-rail adhesion (D)	188 256	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST	460 764 490
Wheel-rail adhesion (D)	188 256	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) THRUST Inertia effects in MHD hydrostatic thrust	460 764 490
Wheel-rail adhesion (D)	188 256	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) THRUST Inertia effects in MHD hydrostatic thrust bearing L	460 764 490
Wheel-rail adhesion (D)	188 256	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing Melt lubrication of an annular-thrust sur-	460 764 490
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L	460 764 490 589
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed	460 764 490 589
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft	460 764 490 589
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the 620; (D) (AC) L	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L THURGOOD, D. A.	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 25	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L THURGOOD, D. A. Shrink buckling of thin circular rings	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L THURGOOD, D. A. Shrink buckling of thin circular rings (D) AM	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface face grooves for two directions of shaft rotation, Investigation of the CO; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L.	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) AM THURMAN, A. L. Free, periodic, nonlinear oscillation of an	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface face grooves for two directions of shaft rotation, Investigation of the CO; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L.	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184 370 405	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184	121; (D) (AC) AM Thermostat for precise temperature control from —190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) AM THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid	460 764 490 589 379
Wheel-rail adhesion (D)	188 256 582 184 370 405	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip	460 764 490 589 379 1 1 377
Wheel-rail adhesion (D)	188 256 582 184 370 405	121; (D) (AC) AM Thermostat for precise temperature control from —190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A.	460 764 490 589 379 624 1 377
Wheel-rail adhesion (D)	188 256 582 184 370 405	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) AM THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder containing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM	460 764 490 589 379 624 1 377
Wheel-rail adhesion (D)	188 256 582 184 370 405	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the C20; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A. Continuation of Newton's method through	460 764 490 589 379 1 377 1 83 1 1147
Wheel-rail adhesion (D)	188 256 582 184 370 405	121; (D) (AC) AM Thermostat for precise temperature control from —190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM TIEN, R. H.	460 764 490 589 379 1 1 377 1 83 1 1147
Wheel-rail adhesion (D)	188 256 582 184 370 405 634 911 142	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the C20; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM TIEN, R. H. Thermal stresses during solidification on basis of elastic model	460 764 490 589 379 1 1 377 1 83 1 1147
Wheel-rail adhesion (D)	188 256 582 184 370 405 634 911 142	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882 1122	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the E02; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) AM THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder containing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM TIEN, R. H. Thermal stresses during solidification on basis of elastic model AM TIJDEMAN, H.	460 764 490 589 379 624 1 377 1 83 1 1147
Wheel-rail adhesion (D)	188 256 582 184 370 405 634 911 142	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882 122 845	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust sur- face L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points TIFN, R. H. Thermal stresses during solidification on basis of elastic model AM TIJDEMAN, H. Frequency response of pneumatic lines	460 764 490 589 379 1 83 1 1147 425
Wheel-rail adhesion (D)	188 256 582 184 370 405 634 911 142	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882 122 1845	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the C620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM TIEN, R. H. Thermal stresses during solidification on basis of elastic model AM TIJDEMAN, H. Frequency response of pneumatic lines Remarks on the	460 764 490 589 379 1 83 1 1147 425
Wheel-rail adhesion (D)	188 256 582 184 370 405 634 911 142	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882 122 1845	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the L 620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) AM THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder containing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM TIEN, R. H. Thermal stresses during solidification on basis of elastic model AM TIJDEMAN, H. Frequency response of pneumatic lines Remarks on the	460 764 490 589 379 624 1 377 1 183 1 1147
Wheel-rail adhesion (D)	188 256 582 184 370 405 634 911 142 202 178	121; (D) (AC) AM Thermostat for precise temperature control from -190 to +650 C	168 641 45 186 32 22 558 892 882 122 122 1 845	THORLEY, A. R. D. Pressure transients in hydraulic pipelines B 453; (AC) B THORPE, J. F. One-dimensional equilibrium cutting gap in electrochemical machining, Prediction of the (D) THRONE, JAMES L. Flow of a melted plastic through a screw extruder, Prediction of (D) B THRUST Inertia effects in MHD hydrostatic thrust bearing L Melt lubrication of an annular-thrust surface L 374; (D) (AC) L Step-thrust gas bearing without feed grooves for two directions of shaft rotation, Investigation of the C620; (D) (AC) L THURGOOD, D. A. Shrink buckling of thin circular rings (D) THURMAN, A. L. Free, periodic, nonlinear oscillation of an axially moving strip AM Nonlinear oscillation of a cylinder contain- ing a flowing fluid THURSTON, G. A. Continuation of Newton's method through bifurcation points AM TIEN, R. H. Thermal stresses during solidification on basis of elastic model AM TIJDEMAN, H. Frequency response of pneumatic lines Remarks on the	460 764 490 589 379 1 83 1 1147 425 4 765

TING, T. C. T. (Continued)		Transmission Lines		Heat transfer to a fluid flowing inside a	
Plane waves due to combined compressive	-	Transients in pneumatic network, Numer-		pipe rotating about its longitudinal axis	
and shear stresses in a half spaceAM Simple waves in an extensible stringAM	189 893	ical solutions of Part 2: Nonlinear termination prob-		In-plane bending of curved circular tubes	135
Wave-front analysis in composite ma-		lemsAM	588	(D)	522
terialsAM	497	Part 3: Network problems with branch-		In-process control of residual stress in	010
TITANIUM Current status of titanium-boron compos-		TRANSPORT	594	drawn tubing	810
ites for gas turbinesP	297	Pneumatic transport of fine granular ma-		ary-layer heat-transfer measurements	
Notch-bend strength of titanium, alumi-		terialI	315	with wall cooling in turbulent airflow	477
num, and copper-base alloys in heavy sections	830	Transport Equipment Lateral stability of road and rail trailers		through a tube	***
Stress-corrosion-cracking characterization	000	Lateral stability of road and rail trailers	1069	linesB	740
procedures and interpretations to failure	***	TREFETHEN, L.		Peristaltic waves in circular cylindrical tubes	579
— safe use of titanium alloysB Toda, Kenji	614	Real fluid flow over yawed circular cyl-		Pressure attenuation in long rarefaction	
Effects of sound on jets and flueric de-		inders, On (D)	132	wave tubesI	497
vices, A discussion of theI	1161	Response of a structure moving through		Radiation incident on a temperature sen- sor situated in a tube having noniso-	
Todd, A. C.		a random load field, On theI		thermal wallsHT	285
Critical porosity of free flowing solids, The 478; (AC) I	400	Ткікна, А. К.	1118	Slip flow in the entrance of a tubeB Small-amplitude frequency behavior of	545
TOEBES, G. H.	488	Optimization techniques for shock and		fluid lines with turbulent flowB	678
Unsteady flow and wake near an oscillat-		vibration isolation, Comparative study		Thermal entry for low Reynolds number	-
ing cylinder, TheB		Optimizing linear vibration isolator sys-		Transient freezing of liquids in forced flow	87
493; (AC) B 861; (errata) B	862	tems subject to random input, A new		inside circular tubesHT	
Tolerances Effect of tolerance and clearance in link-		criterion forI	1005	385; (D) (AC) HT	389
age design	202	"Stromungsmechanik" (BR)AM	911	Transition from supersonic to subsonic flow at low Reynolds numbers in a tube,	
TOLLE, G. C.	400	TRUCKS	911	On	146
Whirl in a finite journal bearing with a		Steering a flexible railway truck on		Tubular stress-rupture testing of chro- mium-molybdenum steels with high-	
continuous lubricating film, An analy- tic solution for	1189	curved trackI	908	pressure hydrogenB	590
Tong. L. S.	1100	TRUMPLER, P. R.		Unsteady flow in a tube with prescribed	
Void fractions in subcooled flow boiling		Influence of internal friction on the sta- bility of high speed rotors with aniso-		discharge	635
НТ	471	tropic supports, TheI	1105	lary-tube gas viscosimeterAM	171
Tools		Truss, K. J.		Wall-thickness changes and the bulk strain	
Investigation of face-milling tool tempera- tures by simulation techniquesI		Effects of some gaseous environments on		behavior of hollow-drawn tubing, Para- metric influence on theB	792
772; (D) I 779; (AC) I	780	the creep of a stainless steel, TheB	575		
Tool wear, Analysis of Part 1: Theoretical models of flank		TRUSSES Snap-through buckling of a viscoelastic		Tucchio, M. A. Crack growth under cyclic compression	
wear I 790; (D) I 796; (AC) I	798	Von Mises truss in a random tempera-			631
Tools and engineering materials with hard.		ture fieldAM	338	_COUNTY AND ADDRESS OF THE PARTY OF THE PART	
wear-resistant infusions	549	Tsao, K. C.	1	Tuncel, O. Diakoptics in the determination of tur-	
A study ofI	652	Investigation of face-milling tool tempera- tures by simulation techniques		bine bucket frequencies by the use of	
What sound can be expected from a worn		772; (AC) I		perturbations, An application ofI	1029
tool?	525	Tsao, S.		Turbines	
TORDA, T. P. Massive recirculation as a method of mini-		Transients in pneumatic networks, Numer-		Acoustic resonance and multiple pure tone	
mizing corrosion in the combustion of		ical solutions of Part 2: Nonlinear termination problems		noise in turbomachinery inlets	253
residual fuels (D)P	206	AM	588	Air pollution characteristics of gas tur- bine enginesP	290
Torons		Part 3: Network problems with branch-		Cavitation tests on hydrofoils designed for	
Radiation view factors for a toroid: com- parison of Eckert's technique and direct		Tse, F. S.	594	accelerating flow cascade:	
computationHT	459	Application of controlled mechanical im-	0.00	Report 4— Three profiles designed for high head Kaplan turbine	
Torques		pedance for reducing machine tool vi-		423; (D) (AC) B	432
Dynamic response of an infinite rod to a	00.0	brationsI	1057	Current satus of titanium-boron compos- ites for gas turbinesP	297
randomly moving torque, On theAM TORRANCE, K. E.	896	TSENG, SHOEI-FU		Diffuser for high-performance centrifugal	20.
Free convection through vertical plane		Stability of a differential equation with application to the vibrations of a part-		compressors, A novel low-costP	
layers - moderate and high Prandtl		icle in the plane, On theAM	311	37; (D) (AC) P Friction clutch reverse-reduction gears for	40
number fluids (D)HT Theoretical polarization of off-specular	402	Stability of the vibrations of two coupled particles in the plane, On the		the GTS Adm. Wm. M. Callaghan, The	
reflection peaksHT	287	Tso, W. K.	411		245
Torres, M. R.		Circulatory system with bilinear hystere-		Gear design and laboratory experience — marine gas turbine propulsionP	263
Expected equivalent damping under ran-		sis damping, On stability of a (D)AM		Heat transfer in the oscillating turbulent	
dom excitation		Tsui, Tien-Yu		boundary layerP Impingement cooling of concave surfaces	239
The state of the s	914	Wave propagation in a finite-length bar with a variable cross section (D) (AC)		with lines of circular air jetsP	
Torsion Behavior of nonlinear viscoelastic material		AND A VALIABLE CROSS SECTION (B) (AC)		149; (D) P 155; (AC) P	158
under simultaneous stress relation in		Тяил, Кічовні		Reduction of noise and vibrations in a hydraulic turbine	722
tension and creep in torsionAM	22	Spherical shell acrylic windows under		Resonant beam tuned damping deviceP	
Effect of axial compression on low-cycle fatigue of metals in tension	780	short-term pressure loading, Critical pressure of (D)	584		148
Stress-concentration factors in shouldered	100	TUBES AND TURING		Reversible pump-turbine, Index method for pumping operation ofB	103
shafts subjected to combinations of flex-	800	Combined free and forced convection heat		Turbine blade vibration due to nozzle	
ure and torsion (D) (AC)I	289	transfer from a heated tube to a trans-		WakesP Vibration amplitudes of compressor blades	223
Towfigh, Keivan Four-bit binary adding mechanism, struc-		verse air stream	457	resulting from scatter in blade natural	
tural synthesis of a (D)I		heaters, Effect of water chemistry and	1	frequenciesP	
	249			182; (D) P 187; (AC) P	188
TRACTION	249	design on	102		
Buckling of cylindrical shells with axial		design onP Extension of the Lévêque solutionHT Forced and self-excited oscillations in	177	Wall temperature and Prandtl number effects on turbulent boundary layer	
		Extension of the Lévêque solutionHT Forced and self-excited oscillations in propellent lines	671	Wall temperature and Prandtl number effects on turbulent boundary layer thicknesses and shape factors for sub-	
Buckling of cylindrical shells with axial surface tractions	1069	Extension of the Lévêque solutionHT Forced and self-excited oscillations in propellent lines	671	Wall temperature and Prandtl number effects on turbulent boundary layer thicknesses and shape factors for sub- sonic compressible gas flow over a flat	
Buckling of cylindrical shells with axial surface tractions AM TRAILERS Lateral stability of road and rail trailers	1069	Extension of the Lévêque solutionHT Forced and self-excited oscillations in propellent lines	671	Wall temperature and Prandtl number effects on turbulent boundary layer thicknesses and shape factors for subsonic compressible gas flow over a flat plate	
Buckling of cylindrical shells with axial surface tractions AM TRAILERS Lateral stability of road and rail trailers	1069	Extension of the Lévêque solutionHT Forced and self-excited oscillations in propellent lines	671	Wall temperature and Prandtl number effects on turbulent boundary layer thicknesses and shape factors for subsonic compressible gas flow over a flat plate	
Buckling of cylindrical shells with axial surface tractions AM TRAILERS Lateral stability of road and rail trailers TRANSIT SYSTEMS	1069	Extension of the Lévêque solution HT Forced and self-excited oscillations in propellent lines B. Forced laminar flow convection in a hori- zontal tube with variable viscosity and free-convection effects HT Heat transfer coefficients and friction factors for longitudinally grooved tubes	177 1 671 1 251	Wall temperature and Prandtl number effects on turbulent boundary layer thicknesses and shape factors for subsonic compressible gas flow over a flat plate	
Buckling of cylindrical shells with axial surface tractions AM TRAILERS Lateral stability of road and rail trailers	1069	Extension of the Lévêque solutionHT Forced and self-excited oscillations in propellent lines	671 251 455	Wall temperature and Prandtl number effects on turbulent boundary layer thicknesses and shape factors for subsonic compressible gas flow over a flat plate	

two-based and the strongers of the strongers of a month of	URBOPUMPS		Vahidi, B.		Velocity distribution and its effect on	
Was ring saals for high-speeck high-preserve trulespounds, buildrand of Landian for the Common and the Common a	Hydrostatic bearings for cryogenic rocket				the accuracy of the	440
Semi-depolity desired for the semi-depolity depolity depolity desired for the semi-depolity depolity d	engine turbopumpsL	557	two-hinged archesAM	768		448
UNBILIZACE UNBILI						657
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Name and the properties of the stady frored vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady of the polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author forced vaporation of author with a real polarized parameter for the stady forced vaporation of author forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the stady forced vaporation of author with a real polarized parameter for the polarized		400		859		
strabilistic swifting pipe flore, The					locityAM	901
Improved libration of volume in grown and section of methods are larger heat-transfer measurements with well cooling in turbelets affected and section of a real belief spring under dynamic section of a consist well cooling in turbelets affected present of affected p		728			Laminar flow in an annulus with arbitrary	
Influence of pressure gradients on turbulent flowers with asymmetric means very more of a minute flower with a symmetric means very more of a minute flower of prediction of turbulent storing at tube. The prediction of turbulent boundary large growth in adverse pressure gradients, and turbulent boundary large growth in adverse pressure gradients, and turbulent boundary large growth in adverse pressure gradients, and turbulent boundary large growth in adverse pressure gradients, and turbulent boundary large growth in adverse pressure gradients, and turbulents on interficial conditions, A two-region to the pressure produce of turbulents on the turbulent boundary large growth in adverse pressure gradients, and the pressure gradients, and the pressure produced and the pressure gradients, and the pressure gradients, and the pressure gradients, and the pressure produced and the pressure gradients, and the pressure produced and the pressure produced and the pressure produced and the pressure produced and the pressure gradients, and the pressure produced and the pressure produ				004		000
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Lickers, J. J. J. B. Spatial likaçue, Dynamic bobavier of Part — Eart couplings of water — HT VICKER, J. J. J. Eart couplings of motion of water — HT Lickers, 1. J. J. Eart couplings of water — HT Lickers, 1. J. J. Eart — Lickers — HT Lickers, 1. J. J. Eart — Lickers — HT Lickers, 1. J. J. Eart — Lickers — HT Lickers, 1. J. J. Eart — Lickers — HT Lickers, 1. J. Eart — Lickers — HT Lickers, 1. J. J. Eart — Lickers — HT Lickers, 1. J. Eart — Lickers — HT Licker						
Laminar transition, and turblent bonds any large many large that transition and turblent bonds any large many large and the state of the product fattered with the inclusion of second-order sixth the inclusion sixth temperature gradients. The inclusion of second-order sixth the incl						383
VANDEAUTY, E. R. DORRY, K. R. Unterly pressure differential in a capil. Large point load AM 85 volumes of condensation of second-need by the control of District Programs of the condensation of second-need by the condensation of the condensation of second-need by the condensation of the condensation of the condensation of the condensation of the condition, a two-region model of the AM 84 volumes of the condition, a two-region model of the AM 85 volumes of the condition, a two-region model of the AM 85 volumes of the condition, a two-region model of the AM 85 volumes of the condition, a two-region model of the AM 85 volumes of the condition of two-region model of the AM 85 volumes of the condition of two-region model of the AM 85 volumes of the condition of two-region model of the AM 85 volumes of the condition of two-region would not transfer at low region on a horizontal cylinder at normal properties for the steady volumes of the condition of two-region volumes of the two-region volumes of the condition of two-region volumes of the condition of two-region volumes of the two-region volumes of two-region volumes of the two-region volumes of		901				000
with sull cooling in turbulent airflow through a tibe with colling in turbulent airflow through a tibe with colling in turbulent flow and of turbulence terms. The present of the colling				1142		819
Transfer in classes and street and a character present controlled to turbulence to turbulents boundary layer the repeated of the control of the control of turbulents boundary layer with emphasis on interfacial conditions, A two-region of turbulents boundary layer with emphasis on interfacial conditions, A two-region of the control of						
Prandit-Kolmogorov model of turbulence with the inclusion of second-second 55 Prediction of turbulent boundary layer growth in adverse pressure gradients, A modified entrainment theory for the AP of Holdine with turbulent flow BP of Holdine wit		477				334
with the inclusion of second-order terms, The growth in adverse pressure gradients, a modified threat with transfer the growth in adverse pressure gradients, a modified threat with transfer the growth in adverse pressure gradients, a modified threat with transfer at low Reynolds (March 1994) and the gradients of the gradients o		***		171		
Vacious, R. J. J. J. B. Spatial linkages. Dynamic behavior of spatial linkages. Dynamic linkages Dynamic li			VAN DRIEST, E. R.			***
West-rail adhesion (D)		855	High-speed hydrodynamics, Problems ofI	1		186
A modified entrainment theory for the Small amplitude frequency behavior a first turbulent flow			VAN OVERVEEN, J. P.			
Samilampillude frequency solvative of find illuss stitu-duction of the control of			Wheel-rail adhesion (D)I	849	Venturi meter with separable diffuserB	116
Small-amplitude frequency behavior of Triol lines with traisland from a first trainfer in the condensation of a flowing from the first trainfer in the condensation of a flowing model of the many of the first trainfer in the condensation of a flowing model of the many of the first trainfer in the condensation of a flowing model of the many of the first trainfer in the condensation of a flowing model of the many of the first trainfer in the condensation of a flowing model of the many of the first trainfer in the condensation of a flowing model of the many of the first trainfer in the condensation of a flowing model of the many of the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer for the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of motion part in the first trainfer in closed containers after gas injection of trainfer after training part in the propagation of a first training part in the growth of the first training part in the growt		240	VAPOR		VESSELS, OCEANGOING	
Trubulent boundary layer with emphasis on interfacial conditions, A two-region of the product flatteness in strip rolling mills. Principles of self control of (D)		049	Laminar film condensation of a flowing		Friction clutch reverse-reduction gears for	
Turbulent boundary layer with emphasis on interfacial conditions, A two-region of Turbulent beat transfer at low Reyrodds numbers and transfer at low Reyrodds numbers and transfer at low Reyrodds numbers. HT 52 Velocity and droplets concentration in TURIXY, J. W. Product flatness in strip rolling mills, Principles of self control of (D) 1708 Principles of the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water HT 201 Migrational properties for the steady forced vaporization of water At 201 Migrational properties for the steady forced vaporization of water At 201 Migrational properties for the steady forced vaporization of water At 201 Migrational properties of the steady forced vaporization		678			the GTS Adm. Wm. M. Callaghan, The	
on interfacial conditions, A two-region model of the mode		0.0	gravityHT	495	P	245
model of the Turbulent heat transfer at low Reposits 52; (D) P 135; (AC) P 135 Velocity and droplets concentration in two-phase from Sac 4 M 34 Velocity and droplets concentration in two-phase from Sac 4 M 34 Velocity and droplets concentration in 1970 Veroity and droplets concentration of the Veroity and droplets concentration of the Veroity and troplets in the Veroity of the Veroity and troplets in the Veroity of Veroity o					Gear design and laboratory experience—	263
Turbulent heat transfer at low Reynolds numbers, and the product of the properties for the steady forced vaporization of water MT 221 Small oscillations about squillifrium containers after gas injection m HT Chronova Micro	model of theAM	664			marine gas turbine propuision	200
Velocity and droplets concentration in two-phase flows, Measurements of Am 17 to Vanual Principles of a self-control of (D)				134	VIBRATION	
two-phase flows, Measurements ofAM 354 Frouder flatness in strip rolling mills, Product flatness in strip rolling mills, Principles of self control of (D)		532			Actual popping pressure of a relief valve	
VANUSI Principles of self control of (D)						
Product flatness in strip rolling mills, Principles of self-central off) 1788 Various, G. J. Stress-concentration factors in shouldered shafts subjected to combination of flexure and torsion (AC) 1.5		334		221		1142
Principles of self control of (D)			VARNISH			1051
TURKER, M. C. Implantable valveless heart assist pump B 284; (AC) B 299 FYKORI, R. J. Migrational properties for the steady forced vaporitation of water BT 221 forced vaporitation of water BT 22		700	Why, what, and how: engine varnishL	406		1051
Implantable valveless heart assist pump B 284; (AC) B 299 TYKOO, R. J. Western and the properties for the steady forced vaporization of water		108	VAUGHN, G. J.			
TYKOOI, R. J. Migrational properties for the steady forced vaporization of water — HT Migrational properties for the steady forced vaporization of water — HT Migrational properties for the steady forced vaporization of water — HT Migrational properties for the steady forced vaporization of water — HT Migrational properties for the steady forced vaporization of water — HT Migrational properties for the steady forced vaporization of water — HT Migrational properties for the steady of the part — Exact equations of motion — 125 Part 2 — Small oscillations about 251 Part 2 — Small oscillations about 251 Part 3 — Exact equations of motion — 125 Spatial mechanisms, Dynamic backaroter 251 Part 3 — Exact equations of motion — 125 Spatial mechanisms, Dynamic characteristics of (D) — I — 125 Spatial mechanisms, Dynamic heart transfer in closed containers after gas injection — HT Transient heat transfer in closed containers after gas injection — HT Migh-speed hydrodynamics, Problems of . I — 1 MDERWAYER CRAFT — MIRD-speed hydrodynamics, Problems of . I — 1 MDERWAYER CRAFT — MIRD-speed hydrodynamics, Problems of . I — 1 MDERWAYER CRAFT — MIRD-speed hydrodynamics, Problems of . I — 1 MDERWAYER CRAFT — MIRD-speed hydrodynamics, Problems of . I — 1 MDERWAYER CRAFT — MIRD-speed hydrodynamics, Problems of . I — 1 MDERWAYER CRAFT — MR — M			Stress-concentration factors in shouldered			1057
UICKER, J. J. Jir. Spatial linkages, Dynamic behavior of: Part 1 — Exact equations of motion Part 2 — Small oscillations about equilibrium. 1289 VEILLE, R. GROUND-TRANSPORT Aerodynamic dength of an axially symmetric volume to the properties of the state of the s		989	shafts subjected to combination of flex-		Balancing criteria and their relationship	
Vehicles, J. J., Jr. Spatial linkages, Dynamic behavior of: Part 1 — State equations of motion Part 2.— Small oscillations about 288 Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial linkages, Dynamic behavior of: Part 3.— Small oscillations about 288 Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. LICKER, J. J., Jr. Spatial mechanisms, Dynamic characteristics of (D) LICKER, J. J., Jr. LICKER, J. Jr. LICKER, J. J., Jr. LICKER, J. Jr.		200	ure and torsion (AC)I	289	to current American practiceI	1035
Forced vaporization of water HT 221 Elastic deformation of a circular rod of finite length for an axially symmetric end face loading. The AM 24 V-HICLES, J. J., jā. Spatial linkages, Dynamic behavior of: Part 1 — Exact equations of motion Part 1 — Exact equations of motion equilibrium J. J. J. J. Part 2 — Small oscillations about equilibrium J. J. J. J. Part 2 — Small oscillations about equilibrium J.			VEEDER, J. I.			
LICKER, J. J. Ji. Spatial linkages, Dynamic behavior of: Part 1 — Exact equations of motion Part 2 — Small oscillations about equilibrium of control of the		221	Elastic deformation of a circular rod of		tapered-twisted turbomachine blade in-	
VEHICLES Vehicles whration analysis using frequency domain techniques Vehicles whration analysis using frequency domain techniques Spatial linkages, Dynamic behavior of: Part 1 — Exact equations of motion Part 2 — Small oscillations about Spatial mechanisms, Dynamic characteristics of (D) — I — I Spatial mechanisms, Dynamic characteristics of (D) — I — I Spatial mechanisms, Dynamic characteristics of (D) — I — I URICH, R. D. Transient heat transfer in closed containers after gas injection — HT UNDOUNDED MEDIA Harmonic dispersion analysis of incremental waves in uniaxially prestressed unbounded media: barrial dynamics of railway whiches the track properties — I Spherical shell acrylic windows under short-term pressure loading, Critical pressure of — I 575; (D) I 576; (D) I 577;			finite length for an axially symmetric			
Vehicles vibration analysis using frequency domain techniques Vehicles vibration analysis controlled by a finite number of linear great decided koops and the finite of the finite and			end face loading, TheAM	241		
VEHICLES, GROUND-TRANSPORT VEHICLES, GROUND-TRANSPORT VEHICLES, GROUND-TRANSPORT VEHICLES, GROUND-TRANSPORT VEHICLES, GROUND-TRANSPORT Acotynamic drag on whelces in tunnels Spatial linkages, Dynamic behavior of: Part 1 — Exact equations of motion Part 2 — Small oscillations about equilibrium Spatial mechanisms, Dynamic character intics of (D) I DRICH, R. D. Transient heat transfer in closed contained by the contained b			VEHICLES			
UCKER, J. J., Ji. Spatial linkages, Dynamic behavior of: Part 1 — Small oscillations about Part 2 — Small oscillations about Part 2 — Small oscillations about I part 2 — Small oscillations about track interaction, A computer study of 508 I part 2 — Small oscillations about track interaction, A computer study of 508 I part 2 — Small oscillations about track interaction, A computer study of 508 I part 2 — Small oscillations about track interaction, A computer study of			Vehicle vibration analysis using frequency			1009
UICKER, J. J. Ji. Spatial linkages, Dynamic behavior of: Part 1 — Exact equations of motion I 1 251 Part 2 — Small oscillations about equilibrium			domain techniquesI	1075		
Aerodynamic drag on vehicles in tunnels Part 1 — Exact equations of motion Part 2 — Small oscillations about Part 2 — Small oscillations about Part 2 — Small oscillations about Part 3 — Small oscillations about Part 2 — Small oscillations about Part 2 — Small oscillations about Part 3 — Small oscillations about Part 2 — Small oscillations about Part 2 — Small oscillations about Part 3 — Small oscillations about Part 3 — Small oscillations about Part 4 — Small oscillations about Part 4 — Small oscillations about Part 4 — Small oscillations about Part 5 — Small oscillations about Part 4 — Small oscillations about Part 4 — Small oscillations about Part 5 — Small oscillations about Part 4 — Small oscillations about Part 5 — Small oscillations about Part 4 — Small oscillations about Part 4 — Small oscillations about Part 4 — Small oscillations about track properties	Howen I I In		VEHICLES, GROUND-TRANSPORT			
Part 1 — Stanct equations of motion equilibrium			Aerodynamic drag on vehicles in tunnels		Diakoptics in the determination of turbine	
Part 2 — Small oscillations about part 2 — Small part 2 — Sm			В	694		
Part 2 — Small oscillations about equilibrium		251	VEHICLES, RAILROAD			
equilibrium Dynamic characters istics of (D) I JURICH, R. D. Transient heat transfer in closed containers after gas injection HT delta dynamics of railway vehicles of mental waves in uniaxially prestreased plastic and viscoplastic bars, plates, and UNDERWATER TECHNOLOCY Spherical shell acrylic windows under short-term pressure of contents of the presence of horizontal and vertical pressure of horizontal and vertical temperature gradients. AM UNIX, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients. AM UY, J. C. Aluminium wire by cold hydrostatic extrusion. B 822 VACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel HT 364; (AC) HT 375 VACUUM UVACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel HT 364; (AC) HT 376 VACUUM Liquid dynamic seal to vacuum, Development of a L. T38 Liquid dynamic seal to vacuum, Development of a L. T38 Liquid dynamic seal to vacuum, Development of a L. T38 Liquid dynamic seal to vacuum disulfide lubricants in radiation and vacuum environments, A test seal to vacuum disulfide lubricants in radiation and vacuum environments, A test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants in radiation and vacuum environments, a test seal to vacuum disulfide lubricants i		201				
Spanial mechanism, Dynamic characteristics of (D)		258				
URICH, R. D. Transient heat transfer in closed containers after gas injection HT UNDOINDED MEDIA Harmonic dispersion analysis of incremental waves in uniaxially prestressed plastic and viscoplastic bars, plates, and unbounded media AM UNDERWATER CRAFT High-speed hydrodynamics, Problems of I VNDERWATER TECHNOLOCY Spherical shell acrylic windows under short-term pressure loading, Critical pressure of I 573; (D) 1 584 UNNY, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM UV, J. C. WISUI, T. (co-author) WACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel BE VACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel BT VACHUM Liquid dynamic seal to vacuum, Development of a L. Molybdenum digulfide lubricants in radiation and vacuum and vacuum and vacuum metroroments, A test Hunting of railway vehicle on test stand. Problems of 1451 Lateral dynamics of railway vehicles. General aspects of the 1879; (D) 1 875; (AC) 1 Steering a flexible railway truck on curved track 1 Transition and vertical termination and vertical temperature gradients AM UV, J. C. VEHICLES, UNDERWATER Bent submarine cables, Axial stresses in armor wires of 1889; (D) 1 846; (AC) 1 Spherical oscillating cylinder mechanism, On the 1879; (D) 1 691; (AC) 1 Spherical oscillating cylinder mechanism, On the welocity of propagation of a AM VELDIAMP, G. R. Acceleration axes and acceleration distribution in spatial motion 1 147; (AC) 1 151 Spherical oscillating cylinder mechanism, On the velocity of propagation of a AM VELDIAMP, G. R. Acceleration axes and acceleration distribution in spatial motion 1 147; (AC) 1 151 Spherical oscillating cylinder mechanism, On the velocity of propagation of a AM Free vibration on heat transfer from Elloston strails and experimental in the less and flueric devices, discussion of the 11 Influence of instability in fluid acceleration di	Spatial mechanisms, Dynamic character-		Dynamic measurement of absolute track			
Transien heat transfer in closed containers after gas injection HT UNDOUNDED MEDIA Harmonic dispersion analysis of incremental waves in unisatilly prestreaded plastic and viscoplastic bars, plates, and unbounded media AM UNDERWATER CRAFT High-speed hydrodynamics, Problems of. I UNDERWATER TECHNOLOGY Spherical shell acrylic windows, under short-term pressure loading, Critical pressure of I 573; (D) I 584 UNNY, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM UY, J. C. Aluminum wire by cold hydrostatic extrusion — B VACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel — HT VACUUM Liquid dynamic seal to vacuum, Development of a	istics of (D)I	233				
Transers free gas injection entrainers after gas injection all 461 UNDOUNDED MEDIA Harmonic dispersion analysis of incremental waves in uniaxially prestressed plastic and viscoplastic bars, plates, and unbounded media AM UNDERWATER CRAFT High-speed hydrodynamics, Problems ofI UNDERWATER CRAFT High-speed hydrodynamics, Problems ofI UNDERWATER TECHNOLOGY Spherical shell acrylic windows under short-term pressure loading, Critical pressure ofI 573; (D) I 584 UNNERWATER TECHNOLOGY Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradientsAM UN, J. C. Aluminum wire by cold hydrostatic extrusionB VACHON, R. I. Pool boiling heat transfer from tefloncoted stainless steelHT VACUUM Liquid dynamic seal to vacuum, Development of a	Ulrich, R. D.					
Lateral dynamics of railway vehicles, General aspects of the Strict of railway vehicles, General aspects of the Strict of railway wehicles, General aspects of the Strict of railway rehicles, General aspects of the Strict of railway rehicles, General aspects of the Strict of railway rehicles, General aspects of the Strict of railway wehicles, General aspects of the Strict of railway rehicles, General aspects of the Strict of railway rehables and the strict of the Strict of railway rehables and the railway truck on curved track of the Strict of railway rehables and the railway truck on curved track of the Strict of railway rehables, A three-dimensional finite difference solution for the Strict of railway rehables, A three-dimensional diffusers and the railway truck on curved track of the Strict of railway rehables, A three-dimensional diffusers and the strict of railway rehables, A three-dimensional diffusers and the railway truck on curved track of the Strict of railway rehables, A three-dimensional diffusers an				990		
Harmonic dispersion analysis of incremental waves in uniaxially prestressed plastic and viscoplastic bars, plates, and unbounded media AM UNDERWATER CRAFT High-speed hydrodynamics, Problems of I 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		461				
Marmonic dispersion analysis of increamental waves in uniaxially prestressed plastic and viscoplastic bars, plates, and unbounded media AM UNDERWATER CART High-speed hydrodynamics, Problems of I 1 Seering a flexible railway truck on curved track I 1 NDERWATER TECHNOLOGY Spherical shell acrylic windows under short-term pressure of olding, Critical pressure of I 573; (D) I 584 tone for the pressure of I 573; (D) I 584 tone for the pressure of horisontal and vertical temperature gradients AM USU, J. C. Aluminum wire by cold hydrostatic extrusion B 822 VACHON, R. I. VACHON,					Effect of vibration on heat transfer from	
plastic and viscoplastic bars, plates, and unbounded media				877		
Ing. 1967-1988						
UNDERWATER CRAFT High-speed hydrodynamics, Problems of I High-speed hydrodynamics (Crtical pressure of I 573; (D) I UNNY, T. E. UNNY, T. E. UNNY, T. E. UNNU, T. (co-author) "Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM UY, J. C. Aluminum wire by cold hydrostatic extrusion Non the VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I Spherical oscillating cylinder mechanism, On the VELOKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I Spherical oscillating cylinder mechanism, On the Non the VELOKAMP, G. R. Acceleration axes and acceleration distribution in turbulent swirling pipe flow, The			ing, 1967-1968I	817		
High-speed hydrodynamics, Problems of I UNDERWATER TECHNOLOGY Spherical shell acrylic windows under short-term pressure loading, Critical pressure of I 573; (D) I 584 UNNY, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM USUI, T. (co-author) "Thermodynamics" (BR) AM UY, J. C. Aluminum wire by cold hydrostatic extrusion B VACHON, R. I. Pool boiling heat transfer from tefloncoated stainless steel AT VACUUM VACUUM Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum environments, A test YELDKAMP, G. R. Acceleration at site steeses in railear wheels, At there-dimensional finite difference solution for the I 1891 YELDKAMP, G. R. Acceleration at 1891 YELDKAMP, G. R. Acceleration axes and acceleration distribution in turbulent swirling pipe flow, The B		00	Steering a flexible railway truck on			
UNDERWATER TECHNOLOGY Spherical shell acrylic windows under short-term pressure loading, Critical pressure of I 573; (D) I 584 UNNY, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM USUI, T. (co-author) "Thermodynamics" (BR) AM UY, J. C. Aluminum wire by cold hydrostatic extrusion Bent submarine cables, Axial stresses in armor wires of I Spherical oscillating cylinder mechanism, On the Stephent of a submarine oscillating cylinder mechanism, On the Spherical oscillating cylinder mechanism, On the Liquid dynamic seal to vacuum, Development of a lambdid dynamic seal to vacuum, Development of a lambdid lubricants in radiation and vacuum environments, A test Liquid dynamic seal to vacuum, Development of the short of the lambdid lubricants in radiation and vacuum environments, A test Liquid dynamic seal to vacuum, Development of the lambdid lubricants in radiation and vacuum environments, A test Liquid dynamic seal to vacuum, Development and use of a label; (D) I 881; (AC) I State that submarine cables and lateration and use of a label; (D) I 886; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State that submarine cables, Axial stresses in armor wires of label; (AC) I State		1				
Spherical shell acrylic windows under short-term pressure loading, Critical pressure of I 573; (D) I 584 UNNY, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients. AM 121; (AC) AM 206 USUI, T. (co-author) "Thermodynâmics" (BR) AM 382 UY, J. C. Aluminum wire by cold hydrostatic extrusion BB 822 VACHON, R. I. Pool boiling heat transfer from tefloncoated stainless steel HT VACUUM VACUUM Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum, Development of a load vacuum environments, A test It in for the lose, Development and use of a Light (D) 1867; (AC) I 1868 Transit propulsion unit suspension, A new — proved on Northeast Corridor high-speed test cars I wheel-rail adhesion I 839; (D) I 846; (AC) I 852 VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the loss factor of a viscoelastically damped beam, The univolimensional diffusers in two-dimensional diffusers						
short-term pressure loading, Critical pressure of I 573; (D) I 584 UNNY, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM USUI, T. (co-author) "Thermodynamics" (BR) AM UY, J. C. Aluminum wire by cold hydrostatic extrusion Aluminum wire by cold hydrostatic extrusion Best of a single-degree of horizontal and vertical temperature gradients AM UY, J. C. Aluminum wire by cold hydrostatic extrusion Coated stainless steel AR VACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel AR Liquid dynamic seal to vacuum, Development of a sulfile ubricants in radiation and vacuum environments, A test Track quality index, Development and use of a I 861; (D) 1 867; (AC) I 882 Transit propulsion unit suspension, A new — proved on Northeast Corridor high-speed test cars I 897 Wheel-rail adhesion I 839; (D) I 846; (AC) I 882 VEHICLES, UNDERWATER Bent submarine cables, Axial stresses in armor wires of I 687; (D) I 691; (AC) I 693 VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the Liquid dynamic seal to vacuum, Development of a L. Molybdenum disulfide lubricants in radiation and vacuum environments, A test of the control of a L. Molybdenum disulfide lubricants in radiation and vacuum environments, A test of the control of a L. Transit propulsion unit suspension, A new — proved on Northeast Corridor high-speed test cars I 897 VEHICLES, UNDERWATER Bent submarine cables, Axial stresses in armor wires of I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the velocity of propagation of a AM Septence of dissipative heating on the loss factor of a viscoelastically damped beam, of propagation of a AM Septence of wire tron-AM The truck quality index (C) I 487 Tra						981
use of a I 861; (D) I 867; (AC) I 868 UNNY, T. E. Transit propulsion unit suspension, A new presence of horizontal and vertical temperature gradients AM 121; (AC) AM 906 USUI, T. (co-author) "Thermodynamics" (BR) AM 382 UY, J. C. Aluminum wire by cold hydrostatic extrusion Be 822 VACHON, R. I. VACHON, R. I. VACHON, R. I. VACUUM VACHON, R. I. VACUUM Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum movironments, A test use of a I 861; (D) I 867; (AC) I 888 Transit propulsion unit suspension, A new provision in the speed test cars I 897 Wheel-rail adhesion I 882 VEHICLES, UNDERWATER Bent submarine cables, Axial stresses in armor wires of I 687; (D) I 691; (AC) I 693 VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the III 143 VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, The Bundary-layer velocity of propagation of a AM 364 Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum motion and turbulent swirling pipe flow, The Bundary-layer velocity profiles on flow regimes and performance in two-dimensional diffusers shear deformation, and rotatory inertia on lateral vibrations of reangular orthotropic propulation of rectangular orthous and solid wiscoelastic cylinder bonded to a thin casing friction of a solid viscoelastic cylinder bonded to a thin casing friction and vacuum distribution in spatial motion I 147; (AC) I 151 Spherical oscillating cylinder mechanism, On the velocity of propagation of a AM 364 VELOKTY I 888 VELDKAMP, G. R. Acceleration axes and acceleration distribution in turbulent swirling pipe flow, The Bundary-layer velocity profiles of nonuniform in the velocity profiles of nonuniform in the velocity profiles on flow regimes and performance in two-dimensional diffusers shear deformation, and rotatory inertia on lateral vibrations of reangular of rece			Track quality index. Development and		Expected equivalent damping under ran-	
UNN, T. E. Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients AM USUI, T. (co-author) "Thermodynamics" (BR) UY, J. C. Alluminum wire by cold hydrostatic extrusion AM VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion Context stainless steel AM VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, The Molybdenum disulfide lubricants in radiation and vacuum environments, A test Transit propulsion unit suspension, A new — proved on Northeast Corridor high-speed test cars — proved on Northeast Corridor high-speed test cars — Sa9; (D) I 846; (AC) I 839; (D) I 846; (AC) I 852 VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion — 147; (AC) I Spherical oscillating cylinder mechanism, On the — I Spherical oscillating cylinder mechanism, on the multiple pipe flow, The — B Disturbance along a foil, On the velocity of propagation of a — AM Stribution in spatial motion — I Welocity Spherical oscillating cylinder mechanism, and acceleration distribution in turbulent swirling pipe flow, The — B Disturbance along a foil, On the velocity of propagation of a — AM Stribution of rectangular ortho- Verince distribution of a solid viscoelastic cylinder bonded to a thin or scaling of freedom system with Coulomb bearing friction — AM Forced transverse vibrations of a single-degree-of- freedom system with Coulomb bearing friction — AM Free vibrations of rectangular ortho- Verince distribution in spatial motion — I If the acted-surface vibrations of rectangular ortho- Verince distribution in spatial motion — I Spherical oscillating cylinder mechanism, and acceleration distribution in turbulent swirling pipe flow, The — B Disturbance along a foil, On the velocity of propagation of a — AM Sea Distribution in spatial motion — I Influence of internal friction on the stability of high speed rotors with ani- stribution in spatial motion — I Influence of internal frictio						
Thermal instability in fluid layers in the presence of horizontal and vertical temperature gradients						
presence of horizontal and vertical temperature gradients AM Loui, T. (co-author) Wheel-rail adhesion I and Bassa (AC) I and Bassa (BR) Wheel-rail adhesion I and Bassa (BR) Wheel-rail adhesion I and Bassa (BR) Vehicles, Underwater Bent submarine cables, Axial stresses in armor wires of I a			- proved on Northeast Corridor high-		Flow induced sibrations of motal ballons	101
USUI, T. (co-author) "Thermodynamics" (BR) UY, J. C. Aluminum wire by cold hydrostatic extrusion Aluminum wire by cold hydrostatic extrusion VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion Coated stainless steel HT VACUUM Liquid dynamic seal to vacuum, Development of a a Liquid dynamic seal to vacuum, Development of a a Molybdenum disulfide lubricants in radiation and vacuum environments, A test Nenicles, Underwater Bent submarine cables, Axial stresses in armor wires of	presence of horizontal and vertical					
USUI, T. (co-author) "Thermodynamies" (BR) AM UY, J. C. Aluminum wire by cold hydrostatic extrusion B VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I 147; (AC) I 511 Spherical oscillating cylinder mechanism, On the I 147; (AC) I 511 Spherical oscillating cylinder mechanism, On the I 147; (AC) I 511 VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, The Boundary-layer velocity distribution in turbulent swirling pipe flow, The I 151 VACUUM VACUUM VACUUM Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum powents, A test I 161 Molybdenum disulfide lubricants in radiation and vacuum environments, A test I 162; (D) (AC) B 474 VEHICLES, UNDERWATER Bent submarine cables, Axial stresses in armor wires of 687; (D) I 691; (AC) I 693 VELDKAMP, G. R. Acceleration axes and acceleration distribution in spatial motion I 151 Spherical oscillating cylinder mechanism, On the B 151 Spherical oscillating cylinder mechanism, The influence of HT Influence of dissipative heating on the loss factor of a viscoelastic cylinder bonded to a thin casing AM Free vibrations of a single-degree of-freedom system with Coulomb bearing friction AM Free vibrations of reinforced elastic shells Grinding process instability I 11 Heated-surface vibration on pool boiling, The influence of insignative heating on the loss factor of a viscoelastic cylinder bonded to a thin casing AM Free vibrations of reinforced elastic shells Grinding process instability I 11 Heated-surface vibration on pool boiling, The influence of insignation of a AM 364 Influence of dissipative heating on the loss factor of a viscoelastic cylinder bonded to a thin armor wires of AM Free vibrations of reinforced elastic shells Grinding process instability I 11 Influence of dissipative heating on the loss factor of a viscoelastic cylinder bonded to a thin armor wires of AM Free vibrations of a single-degree of-freedom						
Wellicles, Underwater "Thermodynamics" (BR) AM Uy, J. C. Aluminum wire by cold hydrostatic extrusion Bs Veldkamp, G. R. Acceleration axes and acceleration distribution in spatial motion		906		852		
Dent submarine cables, Axial stresses in armor wires of single-degree-of-freedom system with Coulomb bearing friction		000				
Aluminum wire by cold hydrostatic extrusion		382			Forced vibrations of a single-degree-of-	-
Velder in spatial motion In Spherical oscillating cylinder mechanism, On the Influence of internal friction on the loss factor of a viscoelastically damped beam, The Influence of internal friction on the stability of propagation of a Am Seed Introduced stainless steel Influence of internal friction on the stability of propagation of a Am Seed Introduced stainless steel Influence of internal friction on the stability of propagation of a Am Seed Introduced stainless of propagation of a Am Seed Introduced stainless of propagation of a Am Seed Influence of internal friction on the stability of propagation of a Am Seed Influence of internal friction on the stability of propagation of a Seed Influence of internal friction on the stability of propagation of a Seed Influence of internal friction on the stability of propagation of a Seed Influence of internal friction on the stability of propagation of a Seed Influence of I						
VACHON, R. I. VACHON, R. I. Pool boiling heat transfer from tefloncoated stainless steel HT Add; (AC) HT VACUUM Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum environments, A test VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, The Boundary-layer velocity of propagation of a Management of a Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum development of a Liquid dynamic seal to vacuum environments, A test VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, The Boundary-layer velocity of propagation of a Management of a Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum Development of a Liquid dynamic seal to vacuum				093		
VACHON, R. I. VACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel	######################################	022				
VACHON, R. I. VACHON, R. I. Pool boiling heat transfer from tefloncoated stainless steel HT Liquid dynamic seal to vacuum, Development of a Liquid dynamic seal to vacuum environments, A test Liquid dynamic seal to vacuum environments, A test Cyacutum and suddid the seal of the						
VACHON, R. I. Pool boiling heat transfer from tefion- coated stainless steelHT 364; (AC) HT VACUUM Liquid dynamic seal to vacuum, Develop- ment of aL Molybdenum disulfide lubricants in radia- tion and vacuum environments, A test Spherical oscillating cylinder mechanism, On theI VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, TheB To isturbance along a foil, On the velocity of propagation of aAM Effects of nonuniform inlet velocity pro- files on flow regimes and performance in two-dimensional diffusersB 462; (D) (AC) B 474 Heated-surface vibration on pool boiling, The influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheInfluence of internal friction on the stability of high speed rotors with ani- sotropic supports, TheInfluence of internal friction on the stability of high speed rotors with ani- sotropic supports, TheInfluence of large amplitudes, transverse shear deformation, and rotatory inertia on lateral vibrations of transversely iso-	and the second s					
VACHON, R. I. VACHON, R. I. Pool boiling heat transfer from teflon-coated stainless steel	V					
Vachon, R. I. Pool boiling heat transfer from teflon- coated stainless steel						
Pool boiling heat transfer from teflon- coated stainless steelHT 364; (AC) HT VACUUM Liquid dynamic seal to vacuum, Develop- ment of aL Molybdenum disulfide lubricants in radia- tion and vacuum environments, A test VELOCITY Boundary-layer velocity distribution in turbulent swirling pipe flow, TheB 728 Disturbance along a foil, On the velocity of propagation of aAM 364 Effects of nonuniform inlet velocity pro- files on flow regimes and performance in two-dimensional diffusersB 462; (D) (AC) B 474 Influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheI Influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheI Influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheI Influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheI Influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheI Influence of dissipative heating on the loss factor of a viscoelastically damped beam, TheI Influence of internal friction on the stability of high speed rotors with ani- sotropic supports, TheI Influence of a viscoelastically damped beam, The	Vienes D I			143		
Pool boiling heat transfer from teflon- coated stainless steel						
VACUUM Liquid dynamic seal to vacuum, Development of a L Molybdenum disulfide lubricants in radiation and vacuum environments, A test Disturbance along a foil, On the velocity of propagation of a AM 364 Effects of nonuniform inlet velocity profiles on flow regimes and performance in two-dimensional diffusers B 462; (D) (AC) B 474 Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The I Influence of internal friction on the stability of high speed rotors with ani- storopic supports, The	root boiling heat transfer from teflon-				factor of a viscoelastically damped beam	,
VACUUM Liquid dynamic seal to vacuum, Development of a						
Liquid dynamic seal to vacuum, Development of a L 738 files on flow regimes and performance in two-dimensional diffusers L 662; (D) (AC) B 474 solved supports, The Liquences of large amplitudes, transverse in two-dimensional diffusers B shear deformation, and rotatory inertia on lateral vibrations of transversely iso-		310				
ment of aL 738 files on flow regimes and performance Influences of large amplitudes, transverse in two-dimensional diffusersB shear deformation, and rotatory inertia tion and vacuum environments, A test 462; (D) (AC) B 474 on lateral vibrations of transversely iso-		OR ROLL				
Molybdenum disulfide lubricants in radiation and vacuum environmenta, A test in two-dimensional diffusers shear deformation, and rotatory inertiation and vacuum environmenta, A test decay (D) (AC) B 474 on lateral vibrations of transversely iso-						
tion and vacuum environments, A test 462; (D) (AC) B 474 on lateral vibrations of transversely iso-	Molybdenum disulfide lubricants in radia-					
						-

In plane (Continued)	on lateral vibrations of transversely iso-		Unsteady flow and wake near an oscillat-	
In-plane flexural vibration of circular	tropic platesAM	254	ing cylinder, The	969
rings	VISCOELASTICITY		(D) B 502, 859; (AC) B 861; (errata) B	862
I 1069	Behavior of nonlinear viscoelastic material		Wake observations for oscillating cylinders	850
Lateral vibrations of a rotating shaft in a	under simultaneous stress relaxation in	00	В	000
viscous fluidAM 682	tension and creep in torsionAM	22	Waldron, K. J. Symmetric overstrained linkagesI 158;	
Limit cycles and stability of a non-linear	Elastic filament reinforcement of a viscoelastic cylinder, OnAM	573	(AC) I	163
two-degree-of-freedom autonomous vi-	Influence of dissipative heating on the loss	0.0	WALKER, G. E., JR.	
bratory system 959	factor of a viscoelastically damped beam,		Green's function for the stress-intensity	
Low-speed chatter effects, An explanation	The	975	factors of edge cracks and its application	
of	Nonlinear viscoelastic solid in uniaxial		to thermal stresses, AB	618
Metal forming with vibrated toolsI 1168	tension, An experimental study of a		WALLS	
Minimum weight design of disks using a	АМ	558	Cellular convection by lateral walls, Sup-	
frequency constraint	Optimization of a viscoelastic structure:		pression ofHT	145
cous fluid. The I 1100	the seat-belt problemAM	565	Extension of the Lévêque solutionHT	177
Nonlinear oscillation of a cylinder contain-	Snap-through buckling of a viscoelastic Von Mises truss in a random tempera-		Effect of a suction upon laminar flow	
ing a flowing fluid I 1147	ture field	338	along a vertical wallAM	877
Nonlinear vibrations of a beam with	"Viscoelasticity" (BR)AM	383	Flow of dry bulk solids on bin walls	492
pinned ends 997	VISCOSIMETER		Free molecule flow through slit and an-	400
Nonlinear vibrations of shallow spherical	Unsteady pressure differential in a capil-		nular orifices in the presence of partici-	
shellsAM 451	lary-tube gas viscosimeterAM	171	pating bounding wallsAM	715
Normal vibrations of a rectangular plate	Viscosity		Internal flow heat transfer for polynomial	
with attached massesAM 130	Viscosity-pressure characteristics of liq-		wall temperature distributions, An ex-	
Optimization techniques for shock and vi-	uids, Measurement and prediction of		pression forHT	175
bration isolation, Comparative study of	L 451; (D) L 457; (AC) L	458	Porous wall cooling, comment on an in-	004
I 1128	VLIET, G. C.		vestigation ofHT	284
Optimizing linear vibration isolator sys-	Natural convection local heat transfer on		Pressures on silo walls 450;	458
tems subject to random input, A new	constant-heat-flux inclined surfaces	1 -32	(D) I 457; (AC) I	400
criterion forI 1005	HT	511	Radiation incident on a temperature sensor situated in a tube having nonisothermal	
Parallel damped dynamic vibration ab-	Turbulent natural convection boundary	***	wallsHT	285
sorbers, Analysis of 282	layers, An experimental study ofHT	517	Resistances to heat and momentum trans-	
Periodic motions of a two-body system	Vоня, J. H.		fer in the viscous sublayer at rough	
subjected to repetitive impact 931	Herringbone grooved, gas lubricated jour-		walls, Some correlations forHT	488
Reducing the response of integrally stiff-	nal bearing, and comparison with ex-		Thermal transients in plane walls, cylin-	
ened structures to random pressures.	periment, An approximate theoretical analysis of the static and dynamic char-		ders, and spheres, Effect of container	
Methods of 1203	acteristics of theL 25; (D) L	35	capacitance onHT	67
Reduction of noise and vibrations in a	Hydrostatic bearings for cryogenic rocket		Unsteady free-convection laminar flow	
hydraulic turbine B 722	engine turbopumpsL		past a porous wall with time-dependent	327
Response of a beam subjected to a cyclic	Spiral-grooved screw seal for turbulent		suctionAM	
moving load, On the 925	operation, Theoretical analysis ofL	675	Wall-thickness changes and the bulk strain behavior of hollow-drawn tubing, Para-	
Response of a structure moving through a	Voids		metric influence on theB	
random load field, On the	Void fractions in subcooled flow boiling			
(D) I 1117; (AC) I 1118	НТ	471	WALOWIT, J. A.	
Response of linear systems to magnitude	Von Karman, Theodore (co-author)		Load support and leakage from microas- perity-lubricated face sealsL	
limited random excitation	"The Wind and Beyond" (BR)AM	141	perity-indricated face seals	120
Self-sustained two-degrees-of-freedom sys-	Vorticity		WAN, F. Y. M.	
tem with nonlinear damping, Response	Axisymmetric vortex flow over a flat sur-		Side-force problem for shallow helicoidal	
and stability of aI 1047	face, On theAM		shells, TheAM	292
Stability of a differential equation with	Confined vortex flow, A theoretical and		WANDLING, D. E.	
application to the vibrations of a particle	experimental study ofAM		Actual popping pressure of a relief valve	
in the plane, On theAM 311	Confined vortex oscillator, A theoretical		with a real helical spring under dynamic	
Stability of the vibrations of two coupled	and experimental investigation of a		loadI	1142
particles in the plane, On theAM 417	Effect of vortices induced by corona dis- charge on free-convection heat transfer		WANG, CHANG-YI	
Transfer functions for helical springs I 1011			Lateral vibrations of a rotating shaft in	
Transverse vibration of a viscoelastic col-	(D) HT 432; (AC) HT		a viscous fluidAM	682
umn with initial curvature under peri-	Incompressible flow in short vortex cham-		WANG, K. K.	
odic axial loadAM 814	bers, An analytical model for the		Investigation of face-milling tool tempera-	
Turbine blade vibration due to nozzle	B 264; (D) B 272; (AC) B	276	tures by simulation techniques	1
wakesP 223	Potential vortex flow adjacent to a sta-		772; (AC) 1	780
Turborotor instability: effect of initial	tionary surface (D) AM 374; (AC) AM		WARD, E. G.	
transients on plane motionL 625;	Spacing of Karman vortices, On theAM		Strictly sinusoidal flow around a sta-	
(D) L 630; (AC) L 633	Vorticity and Kutta condition for unsteady		tionary cylinderE	
Vehicle vibration analysis using frequency	Wortex amplifier, Analysis and modeling		WARNER, C. F.	
domain techniques I 1078	of theB		Velocity and temperature profiles in the	
Vibration amplitudes of compressor blades	VOTAW. C. W.		turbulent boundary layer above ar	1
resulting from scatter in blade natural	Unsteady flow and wake near an oscillat-		evaporating liquid filmRT	
frequenciesP 182; (D) P 187; (AC) P 188			WARNER, P. C.	
Vibration and dynamic instability of a			Resonant beam tuned damping device, A	
beam-plate in a tranverse magnetic field			(D)	
AM 9	144		WASTE TREATMENT	
"Vibration and Shock in Damped Mechani-	The property of the party of th		Nonmechanical solids flow control device	
cal Systems" (BR)AM 38	And the second of the second second		in the waste calcining facility, Experi-	
Vibration of axially excited circular cylin-	WACKER, G. A.		ence with	
drical shells containing fluid, Experi-	Stance 4 -41 4 Poro me -1	1014	WATER	
mental studies ofI 111	num alloy in seawater using smooth and		Calorimeter apparatus to measure the en-	
Vibration of containing structures by	precracked specimens		thalpy difference of heavy water, AH?	
sound in the contained fluid 93	WAGNER, J. T.		Corrosion of carbon steel tubed feedwater	
Vibration of ring-stiffened and mass-at-	Vibration amplitudes of compressor blades	5	heaters, Effect of water chemistry and	d
tached hemispherical shellsAM 31	resulting from scatter in blade natura		design on	P 102
Vibration of the hollow sphere in an	frequencies (D)		Gibson method of water measurement	
acoustic mediumAM 33	WAID, R. L.		Velocity distribution and its effect or	
Vibrations of an elastic layer, An asymp-	Cavitation tests on hydrofoils designed for	r	the accuracy of the	
totic method to analyze theAM 6	accelerating flow cascade:	-	434; (D) B 438; (AC) I	
Vibratory bending of damped laminated	Report 4-Three profiles designed for	r	Heat transfer and pressure drop in tape generated swirl flow of single-phase	
plates 108	high head Kaplan turbine (D)I		waterHT 434; (D) (AC) HT	
Whirl in a finite journal bearing with a	Wakes		Hysteresis effects in surface boiling o	
continuous lubricating film, An analytic	Laminas wake behind a finite flat plate		water	
solution for 118	A numerical solution for the (D) (AC		Influence of water on fatigue-failure loca	
Vinson, J. R.			tion and surface alteration during roll	l-
Influences of large amplitudes, transverse	Near-wake of a circular cylinder in cross	1-	ing-contact lubrication	
shear deformation, and rotatory inertia	flow, The (D) (AC)	B 328	301; (D) L 581; (AC)	L 583

WATER (Continued)		What sound can be expected from a worn		Lateral dynamics of railway vehicles,	
Migrational properties for the steady		tool?	525	General aspects of the	877
forced vaporization of waterHT Water jet pumps, Optimum design ofP	221	Weber, H. B. Lateral dynamics of railway vehicles,		Wheel-rail adhesion (D)I	852
	140	General aspects of the (D)I	877	WIEDERSUM, G. C.	
WATER HAMMER	140	Weber, M. E.	011	Alkali iron trisulfate formation within de-	
Water-hammer attenuation with a tapered		Improving the accuracy of Crank-Nicolson		posits in an oil-fired laboratory com-	
lineB 341; (D) B 351; () B	352	numerical solutions to the heat-conduc-		bustor (D)P	180
WATERS, E. O.	002		189	External corrosion reactions on surfaces,	
Axisymmetric, nonidentical, flat face		Webs		Radioactive sulfur oxide studies of (D)	222
flanges with metal-to-metal contact be-		Web conveyance systems, Equivalent cir-		P	222
yond the bolt circleI		cuit representation ofAM	316	WIKHAMMER, G. A.	
615; (AC) I	622	Wedges		Critical heat flux measurements in a 16-	
WATTS, R. G.		Edge-bonded dissimilar orthogonal elas-		rod simulation of a BWR fuel assembly	249
Microlayer thickness in nucleate boiling.		tic wedges under normal and shear load-		(D)HT	002
An analytical expression ofHT	178	ing (D)AM 650; (AC) AM	652	WILBURN, N. P. Liquid/vapor action in a vessel during	
Temperature distributions in solid and		Stresses in wedges of cohesionless mate-		blowdown (D)P	133
hollow cylinders due to a moving circum-		rials formed by free discharge at the	345	WILCOCK, D. F.	200
ferential ring heat sourceHT	465	WEICHBRODT, BJORN	040	Behavior of hydrodynamic, noncontacting	
WAVE MECHANICS		What sound can be expected from a worn		face seals (AC)L	218
Axisymmetric elastic-plastic wave propa-		tool?	525	High pressure clearance seal, A (D)L	215
gation in 6061-T6 aluminum bars of		WEIGAND, W. A.		WILDMANN, M.	
finite lengthAM	533	Optimal control of linear distributed		Foil bearingsL	37
Diffraction of horizontal shear waves by		parameter systems with constrained		Step-thrust gas bearing without feed	
a half planeAM	873	inputsB	161	grooves for two directions of shaft	
Effect of heating time on thermally in- duced stress waves, TheAM	340	Weigel, J. E.		rotation, Investigation of the (D)L	624
Elastic-plastic boundaries in combined	040	Wheel-rail adhesion (D)I	851	WILKES, D. F.	
longitudinal and torsional plastic wave		WEIGEL, M. J.		Dynamic response of rolamite, A theo-	
propagation (D)AM 653; (AC) AM	654	Plastic storage tanks, Analysis and de-		retical and experimental investigation	880
Elastic waves in a hollow sphere, Three-		sign of (D)I	405	of the (D)I Rolamite-geometry and force analysis	239
dimensional and shell-theory analysis		WEINSTEIN, A. S.		(D)I	191
of		Computerized relaxation applied to the		WILKINS, J. F.	101
Part 1: Analytical foundationAM	431	plane-strain indenterB	816	Salt effects in mucin lubricationL	371
Part 2: Numerical resultsAM	440	WEITSMAN, Y.		WILKINSON, J. P. D.	
Excitation of an elastic cylindrical shell	480	Unbonded contact between plates and an		Oscillations of a sandwich sphere, The	
by a transient acoustic waveAM Gage length errors in plastic-strain wave	459		198	AM	307
measurementAM	870	WELLER, E. J.		WILLIAMS, J. A.	
Harmonic dispersion analysis of incremen-	010	Tool wear, Analysis of		Green's function for the stress-intensity	
tal waves in uniaxially prestressed		Part 1: Theoretical models of flank	TOC	factors of edge cracks and its applica-	
plastic and viscoplastic bars, plates, and		wear (D)	796	tion to thermal stresses, AB	618
unbounded mediaAM	59	tool?	525	WILLIAMS, J. C., III	
Initial slope of elastic-plastic boundaries		Wells, C. H.	040	Transition from supersonic to subsonic	
in combined longitudinal and torsional		Small-strain plasticity theory for planar		flow at low Reynolds numbers in a tube,	
wave propagation, On theAM	203	slip materials, AAM	15	OnAM	146
Interaction of a plane wave with a spher-	***	WENGLARZ, R.	10	WILLIAMS, J. G.	
ical cavity, TheAM	044			Flow of a melted plastic through a screw	
Longitudinal wave propagation in a cir- cular bar loaded suddenly by a radially		Offset unsymmetric gyroscope with ob- lique rotor using (3 x 3) matrices with		extruder, Prediction of (D)B	490
distributed end stressAM	470	dual-number elements, Analysis of an		WILLIAMS, M. L.	
Multiple scattering of elastic waves by		(D)I	541	Electron paramagnetic resonance meas-	
parallel cylindersAM	523	WESNER, J. W., JR.		urements of strain induced ozone crack-	
One-dimensional impact waves in inhomo-		Computerized relaxation applied to the		ing in rubberB	587
geneous elastic mediaAM	803	plane-strain indenterB	816	WILLIAMS, R.	
Peristaltic waves in circular cylindrical		WHEELS		Computerized determination and analysis	
tubes	579	Hunting of railway vehicle on test stand.		of cost and production rates for ma-	
and shear stresses in a half spaceAM	189	Problems onI		chining operations:	
Pressure attenuation in long rarefaction	100	879; (D) I 886; (AC) I	889	Part 2 — Milling, drilling, reaming, and	
wave tubesI	497	Rolling friction:		tappingI	900
Progressive waves on swirling cavity flow		I-Historical introductionL		WILLIAMS, R. A.	
in a circular pipeB	714	II-Cast-iron car wheelsL		Harmonic dispersion analysis of incre-	
Pulsatile flow behavior in elastic systems		III—Review of later investigationsL	269	mental waves in uniaxially prestressed plastic and viscoplastic bars, plates,	
containing wave reflection sitesB	95	Steering a flexible railway truck on curved track	908	and unbounded mediaAM	
Shock propagation in a strain-hardening materialAM	181	Thermal stresses in railcar wheels, A	000	WILLIAMSON, JOHN W.	
Simple waves in an extensible stringAM	893	three-dimensional finite difference solu-		Decay of symmetrical laminar distorted	
Transient shear waves in two joined		tion for theI	891	profiles between flat parallel platesB	558
elastic quarter spacesAM	491	WHIRL		WILMS, E. V.	
Wave-front analysis in composite mate-		Whirl in a finite journal bearing with a		Forced vibrations of a single-degree-of-	
rialsAM	497	continuous lubricating film, An analytic		freedom system with Coulomb bearing	
Wave propagation in a finite-length bar		solution forI	1189	frictionAM	
with a variable cross section (D)AM	200	WHITE, F. M.		WILSON, E. A.	
908; (AC) AM Wave propagation in a semi-infinite elas-	909	Analyzing the turbulent boundary layer		Compression of a thin plastic mass be-	
tic cylindrical membrane, The applica-		with arbitrary pressure gradient, A new		tween two elastic cylindersL	
tion of continued fractions toAM	420	integral method forB 371; (AC) B	378	342; (AC) L	
WAY, G. H.		WHITEHEAD, D. S.		Concentrated contacts for minimum micro-	
Track quality index. Development and use		Vibration amplitudes of compressor blades		slips, Geometric optimization ofL	360
of a (D)	867	resulting from scatter in blade natural		WILSON, P. E.	
WAY, STEWART (reviewer)		frequencies (D)P	187	Generating functions in applied mechan-	
"Magnetohydrodynamics Energy Conver-		WHITELAW, J. H.		ics, Origin ofAM	875
sion" (BR)AM		Two-dimensional turbulent wall jet in a		WILSON, W. R. D.	
WAZZAN, A. R.	200	moving stream, Some properties of the		Compression of a thin plastic mass be-	
Measurement of wall shear stress by		(AC)AM	910	tween two elastic cylinders (D)L	
means of an evaporating liquid film,		WHITNEY, J. M.		WINER, W. O.	
On the	191	Heterogeneous anisotropic plates, Analy-		Non-Newtonian behavior of polymer	
WEAR		sis ofAM	261	blended petroleum oils, The effect of	
Lubrication review: a digest of the litera-		WHITTIER, J. S.		pressure on theL	
ture for 1967L		Dispersive pulse propagation in laminated		459; (AC) I	L 463
Tool wear, Analysis of		composites and comparison with theory,	400	WINTER, P. M.	
Part 1: Theoretical models of flank		Experiments onAM	485	Biaxial residual surface streams from	
wearI 790; (D) I 796; (AC) I		WICKENS, A. H.		grinding and finish machining 304	
Wear on cemented carbide cutting tools, A study of	652	Hunting of railway vehicle on test stand, Problems on (D)	888	stainless steel determined by a new dis- section technique	
A STRUCK OF	13172	Fromems on (D)	000		. 10

Wires		ertia on lateral vibrations of trans-		YOKOSE, K.	
Aluminum wire by cold hydrostatic extru-		versely isotropic platesAM	254	Hunting of railway vehicle on test stand,	
sionB	822	Wu, S. M.		Problems on 879; (AC) I	889
Bent submarine cables, Axial stresses in		Investigation of face-milling tool tempera-		Young, D. F.	
armor wires of	809	tures by simulation techniquesI	700	Unsteady flow in a tube with prescribed	
WIRTZ, D. P.	000	772; (AC) I Transient drilling temperature responses,	180	dischargeAM	635
Transient heat transfer in closed con-		Building a mathematical model to pre-		Yu, C. K. Effect of axial compression on low-cycle	
tainers after gas injectionHT	461	dictI	641	fatigue of metals in tension	780
WISMER, D. A.		WYLIE, E. B.		Yu, H. S.	
Computational procedure for the optimiza-		Forced and self-excited oscillations in pro-		Free molecule flow through slit and an-	
tion of a class of distributed param-	400	pellant linesB	671	nular orifices in the presence of partici-	
eter systems, An efficientB	190	WYNN, R. H.		pating bounding wallsAM	715
Film boiling heat transfer from an oscil-		Fracture criteria for combined extension and bending. An experimental investi-		Two-component stratified flow in a hori-	
lating sphere (D)HT	271	gation ofB	841	zontal duct, Experiments onHT Yu. Keh-Hung	51
WITTLER, M.		garden of minimum minimum p		Clamped bar, Nonlinear analysis for a	
Multiplier rule for a functional subject				AM	355
to certain integrodifferential constraints,				Yu, Yi-Yuan	
AB	185	Y		Nonlinear vibrations of shallow spherical	
WLODARSKI, A.		4.		shellsAM	451
Granular solid discharged from a bin, Air pressure in the bulk ofI		YAMABE, M.		Yung, S. C.	
Wolberg, J. R.	382	Reversible pump-turbine, Index method		Free-convection heat transfer from an in-	***
Two-phase turbulent jet prediction analy-		for pumping operation ofB	103	clined heated flat plate in airHT	192
sis	169	YAMAGUCHI, Y.			
WOLF, J. E.		Reversible pump-turbine, Index method			
Wear ring seals for high-speed, high-pres-		for pumping operation ofB	103	_	
sure turbopumps, Evaluation of (D)L	448	YAMASHITA, T.		7	
Wolf, S.		Impingement cooling of concave surfaces		-	
Effects of nonuniform inlet velocity pro-		with lines of circular air jetsP	158		
files on flow regimes and performance in two-dimensional diffusersB		YANG, AN TZU	100	Zablotsky, N. D.	
462; (AC) B	474	Offset unsymmetric gyroscope with ob-		Externally pressurized gas-lubricated bear-	
WOLFE, W. A.	***	lique rotor using (3 x 3) matrices with		ings, Method of theoretical investigation	166
Effects of nonuniform inlet velocity pro-		dual-number elements, Analysis of an		ofL Zaretsky, E. V.	100
files on flow regimes and performance		I 535; (AC) I	542	Contact conformity effects on spinning	
in two-dimensional diffusers (D)B	474	Spatial five-link mechanisms using (3 x 3)		torque and frictionL	
Wolford, J. C.		matrices with dual-number elements, Displacement analysis of		308; (AC) L	586
Spatial mechanisms, Dynamic character-		152; (AC) I 157,	923	Influence of water on fatigue-failure loca-	
wolosewicz, R. M.	234	YANG, K. H.		cation and surface alteration during roll-	E01
One-dimensional equilibrium cutting gap		Yards Creek pumped storage project,		ing-contact lubrication (D)L Residual stress induced during rolling,	581
in electrochemical machining, Predic-		Experiences on startup and trial opera-		A study ofL	
tion of the (D)I	764	tion atB 387; (AC) B	396	314; (AC) L 318,	655
Woop		YANG, T.		ZERKLE, R. D.	
Moisture stresses in a long hollow wood		Pulsatile flow behavior in elastic sys-	95	Effect of liquid solidification in a parallel	
pole of constant outer and inner radius		tems containing wave reflection sitesB YANG, WEI HSUIN	30	plate channel upon laminar-flow heat	500
in a state of plane strainAM	641	Axisymmetric plane stress problems in		transfer and pressure dropHT One-dimensional equilibrium cutting gap	583
WORK HARDENING		anisotropic plasticityAM	7	in electrochemical machining, Predic-	
Bounding principle in the theory of work-		YATES, F. E.		tion of the (D)I	764
hardening plasticity, AAM	228	Adrenal glucocorticoid endocrine system,		ZIEBOLD, T. O.	
Elastic - plastic, work - hardening arches	247	The: simulation of a biological controller		Pool-boiling heat transfer to liquid helium,	
WORMLEY, D. N.	231	B	305	The influence of nuclear radiation onI	-
Incompressible flow in short vortex cham-		YERAZUNIS, S.		501; (AC) I	507
bers, An analytical model for theB		Film condensation, film evaporation, and single-phase heat transfer for liquid		ZIEGLER, FRANZ	
264; (AC) B	276	Prandtl numbers from 10° to 10°, An		Snap-through buckling of a viscoelastic Von Mises truss in a random tempera-	
WRIGHT, W. A.		analysis ofHT		ture fieldAM	338
Non-Newtonian behavior of polymer		YEW, C. H.		ZIELKE, W.	
blended petroleum oils, The effect of		Elastic-plastic boundaries in combined		Characteristics with application to fluid	
pressure on the (D)L	463	longitudinal and torsional plastic wave		lines with frequency dependent wall	
Wu, C. C. W.		propagation (D)AM		shear and heat transfer, A quasi method	200
Lubrication review (digest of 1967 litera-		Overall deformation of a homogeneous isotropic elastic porous medium, On		of (D)B Forced and self-excited oscillations in	
ture):	oor	AM		propellant linesB	
static and dynamic sealsL	220	YIELDING	-	ZLATIN, N.	
Wu, C. G.		Strain-energy release rate, The effect of		Computerized determination and analy-	
Vibration of axially excited circular cylindrical shells containing fluid, Ex-		local yielding on theB		sis of cost and production rates for	
perimental studies ofI	1119	Yielding and flow characteristics of low-		machining operations:	
Wu, CH.		carbon steel between ambient and liquid		Part 2 - Milling, drilling, reaming, and	505
Strongest circular arch, The — a perturba-		nitrogen temperaturesB YIH, C. S.	603	Zyszkowski: W.	585
tion solution (AC)AM	908	Peristaltic transport (AC)AM	379	One-dimensional heat-conduction probems	
Wu. Cheng-Ih		Yin, F.	0.0	with nonlinear boundary conditions, The	
Influences of large amplitudes, transverse		Peristaltic waves in circular cylindrical		transient temperature distribution in	
shear deformation, and rotatory in-		tubesAM		T	



